EXECUTIVE CORRESPONDENCE

EFFECTIVENESS OF MEDICARE VOLUME AND INTENSITY CONTROLS

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EXECUTIVE SUMMARY

1. Survey of Medicare Part B Carriers

Prepayment Medical Review. Medical review screens are manual or automated edits designed to suspend processing of claims when specified selection criteria are exceeded. Until recently, there was only one mandated prepayment screen: claims from physicians making multiple visits to nursing home patients were automatically reviewed. As of January 1, 1986, however, 13 national screens--mostly dealing with volume and intensity of physicians' services--are mandated by HCFA. Carriers may set tighter parameters for screening than those mandated by HCFA and there are numerous local screens in addition to the 13 nationally mandated ones.

Although many carriers had implemented some of the 13 screens before they were mandated, few of them now use tighter screening parameters.

Carriers were asked to name up to three mandated screens that were not cost-effective, in their opinion. Routine foot care and injections were the most commonly named screens to be perceived as ineffective, followed by urological supplies and post-cataract contact lenses. Almost all carriers rate the following five screens as cost-effective: nursing home visits, new patient office visits, concurrent care, and comprehensive office visits.

Postpayment Medical Review. Postpayment medical review is a process by which practice patterns of physicians/suppliers are compared to statistical norms in order to identify physicians and other suppliers whose practice patterns depart from recognized norms, and to correct overutilization of services by postpayment monitoring, education and recovery of overpayments.

Carriers are required to make postpayment pattern-of-practice comparisons for the following service categories: office visits, home visits, hospital visits, SNF (skilled nursing facility) visits, injections, EKGs, surgery, office lab services, office diagnostic x-ray, and physical therapy. Carriers vary widely with regard to the statistics used to trigger the review of a physician.

Collapsed Coding. Carriers were asked if they had changed the coding of physician services to prevent physicians from "upcoding" procedures. While many had implemented downcoding screens, none had either reduced the number of different codes they recognized for payment or opted to pay the same payment for more than one existing code.

Bundling. Most carriers have such programs for surgery, but only a few have extended the bundling concept to other services.

Other Methods of Controlling Volume and Intensity. Carriers were asked to describe other techniques they used for successfully controlling volume and intensity under Part B of Medicare. The most commonly cited technique was physician education, accomplished through newsletter, telephone contacts, or visits to the doctors. Education seems to be most effective if it is conducted in a non-adversarial fashion.

2. Site Visits to Carriers

Three carriers were identified, on the basis of their survey responses, as innovative and concerned with policy development.

Innovation. While these firms were clearly successful and energetic claim reviewers, most of their innovations were along the lines of "more of the same."

Policy Concerns. The following represent the policy concerns of a number of the carriers:

- Budgeting on a yearly basis creates problems for the carriers.
- Postpayment review is costly, but it is regarded as essential in gaining the information necessary to establish effective pre-payment screens.
- Adequate lead time is needed when a new mandated screen is introduced.
- Mandated screens were believed to not always be appropriate or useful in all regions of the country.
- These carriers all have excellent relations with their regional offices.
- Competition among carriers is keen and may inhibit innovation.

3. Analysis of the Effectiveness of the Mandated Screens

We define effectiveness as deterrence. That is, a bad (i.e., medically unnecessary) claim is deterred if it would have been submitted in the absense of the screens. This is different than the amount of bad claims caught, which can also be considered a measure of effectiveness. Our measure focuses on the extent that physician behavior is changed. The amount of bad claims caught is a measure of the efficiency of the carriers in catching the bad claims.

Our concept of effectiveness is a measure of the ability of screens to alter the behavior of physicians and suppliers. It does not measure the performance of the carriers in identifying medically unnecessary claims. Indeed, measures of these two concepts may be diametrically opposed. That is, if screens were deterring bad claims, we would expect that the dollar volume of bad claims would decrease over time. If carriers were performing better by capturing more of the medically unnecessary claims, we would expect that the dollar volume of bad claims would increase over time. In this analysis, we assume that, since most carriers have had substantial experience screening claims before the mandated screens were imposed, the firms' performance had reached a steady state and that bad claim identification was neither appreciably improving or worsening. Therefore, any observed change in the amount of unnecessary claims can be attributed to the imposition of a screen in changing physician and supplier behavior.

The analysis was constrained by the availability and the nature of the data. Because of missing data, our most reliable effectiveness evidence would be with regard to the seven screens mandated as of January 1, 1986: chiropractic, hospital visits, comprehensive office visits, SNF nursing home visits, injections, urological supplies, and replacement of post-cataract contact lens.

For these seven screens, given the most appropriate carriers and time interval, and assuming that the administrators' opinions are the most reasonable, the preponderance of evidence seems to suggest that the screens are effective, on average. Four of the seven screens--chiropractic, SNF visits, injections, and post-cataract contact lens--were effective. Of the five screens implemented before January 1, 1986, three--routine foot care, nursing home visits, and holter monitoring--were effective.

The use of a longer time interval (i.e., between the first quarter of 1986 and the last quarter of 1987) in the effectiveness calculations essentially does not alter the results.

Overall, however, we have only weak analytical evidence that the screens are effective. Three explanations are possible. First, the data may have been too limited to show evidence of a deterrence effect. Second, although the screens have caught a large number of claims deemed to be medically unnecessary, they may not have significantly deterred physicians from submitting medically unnecessary claims. Third, it is not clear that all things have been held constant in going from the "pre-screening" period to the post-screening period.

Our best guess from all the information gathered is that, for most carriers, most screens are likely to be somewhat effective in promoting desirable physician treatment or billing behavior, at least when the screens are initially imposed. This effectiveness, however, was not conclusively demonstrated by the empirical portion of this study.

1. INTRODUCTION

The Health Care Financing Administration (HCFA) Research Center sponsored by the University of Minnesota, the University of Pennsylvania, and Mathematica Policy Research was commissioned to undertake a study of the effectiveness of pre- and postpayment review activities conducted by Medicare Part B carriers. This report is intended to partially satisfy the mandate of Public Law 100-203.

Until recently, there was only one national screen for medical necessity: claims from physicians making multiple visits to nursing home patients were reviewed. Now, however, 13 national screens--all dealing with volume and intensity of physicians' services--are mandated by HCFA. Claims falling above certain parameters, e.g., more than 31 hospital visits per three months, are reviewed for medical necessity before they are paid. The carrier (typically utilizing a nurse, physician, or clerk) reviews the claims against criteria of medical necessity. Claims deemed unnecessary may be denied or reduced. Carriers may set tighter parameters for screening than those mandated by HCFA (Medicare Carriers Manual, June, 1988 Section 5240 5.2C) and there are numerous local screens in addition to the 13 nationally-mandated screens.

Retrospective review is also mandated by HCFA, although carriers have wide latitude in their choice of review methods. Many use comparisons of provider practice style to accepted norms of practice, e.g., claims submitted by high-volume physicians are reviewed. The problem with this type of review, of course, is that physicians in fee-for-service practice lack a defined patient population, so that high volume may reflect high workload rather than an excessive number of services per patient.

Retrospective review is accompanied by an educational contact with the physican. HCFA can ask for repayment from the physician, and potential cases of fraud can be referred to the Inspector General's office for investigation and possible prosecution.

Since January, 1985, carriers have submitted quarterly reports of their pre- and post-payment review activities to HCFA. Such reports contain the following information on the 13 mandated and the top (in terms of dollar volume of claims denied net of reversals) 30 voluntary pre-payment screens: number and dollar value of claims flagged for review; number and value of claims denied and reduced; and number and value of denials/reductions reversed on appeal. In addition, a small amount of post-payment review activity is reported: number and value of post-payment review pending and complete; overpayments and recoveries; and referrals to the Inspector General's office.

The report is divided into three sections. The first describes the approaches currently used by Medicare Part B carriers to control volume and intensity. This section is based on a survey sent in September, 1988 to all 46 carriers. A summary of these survey findings is contained in section 2 of this report.

The second section is based on site visits by the University of Minnesota research team to three carriers that were chosen because they appeared to be, on the basis of the survey, in the forefront of innovation and policy development with regard to review activities. This section summarizes our findings of their innovative practices and the ways in which these carriers thought that HCFA policies could better be implemented. These findings appear in section 3.

The third section addresses the effectiveness of HCFA mandated prepayment screens in deterring the filing of medically unnecessary Medicare Part B claims. This analysis is based on changes over time in the dollar volume of medically unnecessary claims resulting from the imposition of the screens. An extended discussion of our methods and results is reported in section 4.

We summarize our findings in the following three subsections.

1.1. Survey of Medicare Part B Carriers

With this survey, we wanted to find out the following:

1. when each carrier implemented each of the 13 mandated pre-payment screens,
2. whether tighter screening perameters were used for the mandated screens,
3. what other voluntary screens were used and, if so, what were the dates of implementation, the screening parameters, and the status of the claim when the parameter was exceeded,
4. what type of person (e.g., nurse, clerk, or physician) performs the screen,
5. what the estimated cost of pre-payment review is,
6. what problems were encountered in implementing the screens,
7. what the physicians' reaction to the screens was,
8. what types of procedures were used for post-payment review,
9. how physician profiles were developed,
10. what types of educational activities are done, who does them, and in what sequence are they done, and
11. what the estimated cost of post-payment review was.

Prepayment Medical Review. Medical review screens are manual or automated edits designed to suspend processing of claims when specified selection criteria are exceeded. Until recently, there was only one mandated prepayment screen: claims from physicians making multiple visits to nursing home patients were automatically reviewed. As of January 1, 1986, however, 13 national screens--mostly dealing with volume and intensity of physicians' services--are mandated by HCFA. When a claim is "flagged" by a screen, it is then typically reviewed by a trained clerk, nurse, or physician. Claims deemed unnecessary may be denied or reduced. Carriers may set tighter parameters for screening than those mandated by HCFA and there are numerous local screens in addition to the 13 nationally mandated screens.

Although many carriers had implemented some of the 13 screens before they were mandated, few of them use tighter screening parameters. One explanation for why carriers do not exceed the mandated parameters is carrier interpretation of discretionary authority. We discovered that most of the screens implemented prior to the mandated date used tighter parameters. When the screens were mandated, however, carriers tended to make their systems conform with the federal mandate. Thus, many of them relaxed their screening parameters. It was apparently not clear whether HCFA would allow tighter parameters.

Carriers were asked to describe any problems they encountered in implementing mandated prepayment screens. Responses to this open-ended question indicated a general increase in physician complaints about government interference in medical practice, but no significant problems. Perhaps the most commonly voiced suggestion was to publicize in advance when a new screen is to be mandated. More lead time would make the transition easier.

Carriers were asked to name up to three mandated screens that were not cost-effective, in their opinion. Routine foot care and injections were the most commonly named screens perceived to be ineffective, followed by urological supplies and post-cataract contact lenses. Almost all carriers rate the following screens as cost-effective: nursing home visits, new patient office visits, concurrent care, and comprehensive office visits.

Carriers use numerous local screens in addition to the 13 mandated screens. We asked each carrier how many optional screens it used. The median was 21, and one carrier had 121 local screens. Carriers were asked if they would recommend up to 3 of these to include in a list of nationally mandated screens. Although the responses were varied, we could discern general agreement on four potential screens: consultations, both the number of visits per hospitalization and the number of hospital visits per time period, office visits, and hospital emergency room visits.

Postpayment Medical Review. Postpayment medical review is a process by which practice patterns of physicians/suppliers are compared to statistical norms to identify physicians and other suppliers whose practice patterns depart from recognized norms, and to correct overutilization of services by recovery of overpayments, postpayment monitoring, and education.

Carriers are required to make postpayment pattern-of-practice comparisons for the following service categories: office visits, home visits, hospital visits, SNF (skilled nursing facility) visits, injections, EKGs, surgery, office lab services, office diagnostic x-ray, and physical therapy. Carriers vary widely with regard to the statistics used to trigger the review of a physician.

Collapsed Coding. Carriers were asked if they had changed the coding of physician services to prevent physicians from "upcoding" procedures (e.g., has the carrier reduced the number of office visit codes it recognizes for payment purposes?). While many had implemented downcoding screens (e.g., if a physician submitted two claims for initial office visits for the same patient, the second claim was automatically downcoded to a followup visit), none had either reduced the number of different codes they recognized for payment or opted to pay the same payment for more than one existing code. The carriers felt constrained from collapsing their coding for technical and legal reasons. Whatever the reasons, it is clear that carriers are not willing to initiate coding system changes. These initiatives will have to come from HCFA or from new federal legislation.

Bundling. Carriers were asked if they extensively "bundle" physician services into broader categories, e.g., global fees for surgery. Most of the carriers have such programs for surgery; a few have extended the bundling concept to other services.

Other Methods of Controlling Volume and Intensity. Carriers were asked to describe other techniques they used for successfully controlling volume and intensity under Part B of Medicare. The most commonly cited technique was physician education, accomplished through newsletter, telephone contacts, or on-site visits to the doctors. Education seems to be most effective if it is conducted in a non-adversarial fashion.

Another general conclusion to be drawn from the responses is that carriers feel they know the doctors and suppliers whose practice and billing patterns depart from the established norms. Specific screens are sometimes devised for these providers.

1.2. Site Visits to Carriers

Three carriers were identified, on the basis of their survey responses, as innovative and concerned with policy development. These carriers were Pennsylvania Blue Shield, Transamerica Occidental Life Insurance Company, and Empire Blue Cross and Blue Shield. A team of researchers from the University of Minnesota and representatives from HCFA's central Baltimore office and/or the carrier's regional office spent a day at each of these sites. The purpose of these visits was (1) to gather information on the innovative policies that these carriers practiced and (2) to communicate to HCFA any concerns that these firms might have in carrying out HCFA policies.

Innovation. In general, we were disappointed to find that these firms could not give us evidence of innovations that would improve the claim review process. While these firms were clearly successful and energetic claim reviewers, most of their innovations were along the lines of "more of the same." That is, they might have more optional screens than average, tighter parameters on those screens, or more postpayment activity, rather than any new pre- or postpayment procedures. All the administrators we met were clearly "invested" in the process. There was also evidence that good and innovative management practices existed. However, they were not specific to the claim review process.

Policy Concerns. These carriers were able to identify a number of areas where changes might improve the carriers' ability to carry out HCFA policies. These areas can be summarized as follows:

Budgeting on a yearly basis creates problems for the carriers. It often prohibits them from using their available data to improve the review process. This is because many of the projects intended to improve the system are risky (i.e., since the costs of setting up the projects are borne currently, it is unlikely that many projects will be cost-effective in the first year) and they may require more than a year to set into place. Yearly budgeting also can create problems because workers are unsure of continued employment.

Carriers are required to meet certain timeliness standards in paying physicians for Medicare services. The strong emphasis on timeliness of payment, however, is a disincentive to pursuing aggressive medical review. Decisions to suspend payment for medical review lengthen the average claim processing time and make it less likely that the timeliness standards will be met.

Postpayment review is costly, but it is regarded as essential in gaining the information necessary to establish effective pre-payment screens.

Adequate lead time is needed when a new mandated screen is introduced. HCFA representatives present during the visits explained that the short time frame for implementation was usually the result of pressures from Congress. An explanation of the reasons for the changes could make their implementation easier.

Mandated screens were believed not always appropriate or useful in all regions of the country.

These carriers all have excellent relations with their regional offices. Still, they expressed concern that potentially helpful ideas generated by the carriers were not shared among the other carriers.

Competition among carriers is keen and may inhibit innovation. Carriers cannot afford to risk changes that may not work for fear of falling behind other carriers. Competition may also inhibit the dissemination of innovative ideas, especially if the innovations lead to competitive advantages in the performance criteria HCFA uses to evaluate carriers and award contracts.

Carriers sometimes perceive a utilization problem that physicians claim is due to practice style variation. The review process would be strengthened if there was a nationally accepted study that established guidelines regarding acceptable physician practice style variation.

When a beneficiary has insurance coverage in addition to Medicare, HCFA has asked the carriers to forward claims to these other insurance companies. It was felt that this request was made with inadequate lead time and that the carriers were not given any additional funds with which to accomplish the task. Moreover, if the carrier is successful in educating the beneficiaries and providers to bill Medicare as a secondary payer, the carrier will never see the claim and, therefore, will not be able to report a savings.

1.3. Analysis of the Effectiveness of the Mandated Screens

We defined effectiveness with the following monetary measure: effectiveness equals the dollar volume of "bad" (i.e., medically unnecessary) claims that are deterred by the screen. The key concept in this definition is deterrence; we view an effective screen as one that deters bad claims.

More specifically, we measure the effectiveness of a screen by comparing the dollar volume of bad claims in a 3-month period when a mandated screen is present with the volume of bad claims that would have occurred in that period if there had not been a screen. The difference between these two volumes represents the effectiveness of the screen. If this difference is positive, we deem the screen to be effective.

Our concept of effectiveness is a measure of the ability of screens to alter the behavior of physicians and suppliers. It does not measure the performance of the carriers in identifying medically unnecessary claims. Indeed, measures of these two concepts may be diametrically opposed. That is, if screens were deterring bad claims, we would expect that the dollar volume of bad claims would decrease over time. If carriers were performing better by capturing more claims, we would expect that the dollar volume of bad claims would increase over time. In this analysis, we assume that, since most carriers have had substantial experience screening claims before the mandated screens were imposed, the firm's performance had reached a steady state and that bad claim identification was neither appreciably improving or worsening. Therefore, any observed change in the number of medically unnecessary claims can be attributed to the imposition of a screen in changing physician and supplier behavior.

The analysis was constrained by the availability and the nature of the data. Because of missing data, our most reliable effectiveness evidence would be with regard to those screens mandated January, 1986: chiropractic, hospital visits, comprehensive office visits, SNF nursing home visits, injections, urological supplies, and replacement of post-cataract contact lens. (Although the screen for concurrent care met this criterion, it was excluded for other reasons.)

Some carriers had implemented the screens before January, 1986. In calculating the effectiveness measure, the more reliable data came from those firms that did not implement the screen until it was required. Also, because of data problems, the most reliable representation of the effectiveness compares data from first quarter of 1986 and the first quarter of 1987 to establish effectiveness. Of the two intervals considered, however, this one is less likely to show a screen to be effective. Finally, we had to make a number of assumptions about the likelihood of a bad claim among the claims that were not screened for medical review. Our best guess at that likelihood was provided by the opinions of the administrators from the survey. Thus, our overall impressions of effectiveness are based on their opinions, on average.

For these screens, carriers, and time interval, and assuming that the administrators' opinions are the most reasonable, the preponderance of evidence seems to suggest that the screens are on average effective in deterring the submission of bad claims. Four of the seven screens--chiropractic, SNF visits, injections, and cataract contact lens--were effective. Of the other five screens, three--routine foot care, nursing home visits, and holter monitoring--were effective.

The use of the longer time interval (i.e., between the first quarter of 1986 and the last quarter of 1987) essentially does not alter the results of the effectiveness calculations.

Using the entire sample of carriers and all 12 screens, but using the shorter interval and retaining the assumption regarding the probability of a bad claim among the non-screened claims, we find only five--routine foot care, nursing home visits, chiropractor, comprehensive office visits, and post-cataract contact lens--to be effective. Using the longer time interval, seven screens are now cost-effective: the above five plus hospital visits and urological supplies.

We also attempted to estimate the effectiveness of the screens net of the costs involved with the screening process. To do this, we estimated the marginal cost of identifying a medically unnecessary claim. The marginal cost of a mandated screen is estimated to be about $1 per every $100 of claims flagged for medical review. The fixed cost of a screening program that includes both mandated and optional screens is about $244,000 on average per year. Our cost analysis seems to indicate that the unit cost of a screen drops as more screens are added. Caution must be used in interpreting the cost analysis because of the poor quality of the data. The unreliable nature of these estimates discouraged us from taking the numbers literally and calculating cost-effectiveness estimates.

Overall, we have only weak analytical evidence that the screens are effective in deterring the submission of bad claims. There are at least three possible explanations. First, it is also possible that deterrence exists, but that our data are too limited to exhibit this effect. Second, it is possible that the penalties within the claims-review process are too weak to deter physicians and suppliers from submitting bad claims. Third, it is not clear that all thing have been held constant in going from the "pre-screening" period to the post-screening period.

Because of evidence from other sources, we attribute this weak evidence primarily to data limitations. Our best guess from all the information gathered is that, for most carriers, most screens are likely to be somewhat effective in promoting desirable physician treatment or billing behavior. This effectiveness cannot be demonstrated here because we simply do not have accurate information on the prevalence of bad claims either in the pre-screening period or among the unscreened claims. If we did, we might be able to show a more pronounced effect.

2. SURVEY OF MEDICARE PART B CARRIERS

2.1. Technical Approach

The purpose of this section is to describe the range of approaches currently used by Medicare Part B carriers to control volume and intensity. To assess these approaches, a survey was designed by the University of Minnesota in consultation with the Bureau of Program Operations (BPO) of HCFA. A copy of the survey is attached as Appendix A to this section of the report. An instruction page explained that the purpose of the survey was to analyze the effectiveness of methods currently used to ensure that Medicare payments are made only for medically necessary physicians' services. A cover letter from the Director of the Office of Program Operations Procedures (OPOP) urged carriers to cooperate with the survey.

The survey was mailed on September 12, 1988, to 46 Medicare carriers. It was followed, about 2 weeks later, by a telephone call from the University of Minnesota (carriers had been notified of this call by the instruction sheet that accompanied the mail questionnaire). The purpose of this call was to review any problem areas and to write down the answers to the survey questions. Carriers were then instructed to return the survey by mail. This method--utilizing both mail surveys and telephone followup calls--has been found to be an accurate method for collecting complex information such as that requested by the carrier survey. By early November, 44 surveys had been returned for a response rate of 96 percent. One survey was returned after the cutoff date for tabulating responses.

The survey contained "closed" and "open" ended questions regarding carriers' programs to control volume and intensity. Closed-ended questions present the respondent with a limited number of categories from which to select an answer; alternatively, they may ask for a numerical or qualitative rating of the effectiveness of a volume/intensity control. Open-ended questions offer the respondent more latitude in his/her answer (e.g., what is your overall feeling toward the effectiveness of a control?). This type of question is often useful for understanding the context in which controls are used; however, it may be difficult to categorize and compare responses to open-ended questions.

2.2. Findings

2.2.1. Medical Review

We will begin by presenting the results for medical review (MR) activities of Medicare carriers. Medical review screens are manual or automated edits designed to suspend processing of services meeting specified selection criteria. Services are then evaluated to determine whether they were medically necessary. In general, medical review screens may be of two types: prepayment and postpayment. These screens are distinguished by whether selection and review occurs before or after the claim has been paid.

Table 2.1 shows how many carriers (out of 44) implemented the screen before the mandated date, and how many currently use a screening parameter tighter than the mandated parameter.

This table shows that, although many carriers implemented the screens before they were mandated, few of them use tighter screening parameters. One explanation for why carriers do not exceed the mandated parameters is carrier interpretation of their discretionary authority. We discovered that most of the screens implemented prior to the mandated date used tighter parameters. However, when the screen was mandated, carriers tended to make their systems conform with the federal mandate. Thus, many of them relaxed their screening parameters. They apparently thought that HCFA would not allow tighter parameters, although the HCFA Carriers Manual explicitly permits the use of more stringent screens if approved by the HCFA regional officer (see Carrier Manual, June 1988, section 7529, p. 7-152).

Eight carriers use tighter screening parameters for chiropractic services. On close examination, however, most of these carriers prohibit more than 12 spinal manipulations per year or 1 per month. Their extra screen will catch suppliers who perform 6 spinal manipulations within 3 months, for example. Two carriers have implemented very strict screens: one reviews all chiropractic claims for medical necessity, and one requires x-rays to substantiate the claims.

Carriers were asked to describe any problems they encountered in implementing mandated prepayment screens. Responses to this open-ended question indicated a general increase in physician complaints about government interference in medical practice, but no significant problems. These responses are summarized below. Interested readers can find detailed answers, listed by carrier number, in Appendix B.

Several carriers offered constructive suggestions about how to implement a new screen. They suggested that it should be publicized to the physician community in advance (through newsletters, etc.). One noted that the implementation date is effective immediately and gives little time to instruct the providers on the new screens. Once the provider is notified and edits/audits are in place, no major problems are encountered. Interestingly, most of the complaints about screens seem to come from podiatrists and chiropractors. One carrier commented, "The chiropractors are very organized and they continually ask for further reviews."

Carriers were asked to name the skill level of the person who normally performs medical review for mandated screens. In 27 cases this was a claims examiner with limited medical training. Nurses were mentioned 12 times, and physicians were mentioned 5 times. Many carriers also mentioned a second skill level, although they were not required to so. The most frequently mentioned second-level claims reviewer was a nurse.

Table 2.1

Information on Nationally Mandated Prepayment Screens*

Screen	Mandated Date (mo/year)	# of Carriers With Prior Date	Mandated Parameter	# of Carriers With Tighter Parameter
Routine foot care	10/84	6	1 treatment per 60 days	3
Mycotic nails	10/84	11	1 treatment per 60 days	2
Nursing home visits	10/84	16	1 visit per month	1
New patient office visits	10/84	7	1 comprehensive physical exam per carrier history period	3
Holter and real-time monitoring	10/84	6	1 instance per 6 months	0
Chiropractic	1/86	32	12 spinal manipulations per year	8
Concurrent care	1/86	34	1 doctor of same specialty billing for in-hospital services on same day	3
Hospital visits	1/86	29	31 times in 3 months	5
Comprehensive office visits	1/86	28	1 per 6 months	2
SNF visits	1/86	33	2 subsequent care visits in 1st week, 1 visit per week thereafter	6
Injections	1/86	30	24 per year	4
Urological supplies	1/86	28	2 catheters per month	1
Replacement of post-cataract external prosthetic contact lens	1/86	27**	1 per eye per year	2

*As of November, 1988.
**2 missing carriers.

Carriers were given the opportunity to "sound off" by naming up to three mandated screens that they believed were not cost-effective. Only 6 carriers failed to name at least one ineffective screen. Table 2.2 shows the number of times each mandated screen was cited as ineffective.

Several interesting features are shown by Table 2.2. First, carriers consistently rate certain screens as ineffective. Routine foot care and injections top this list, followed by urological supplies and post-cataract contact lenses. Carriers had previously stated that the foot care screen was difficult to implement. However, only 4 carriers view chiropractic prepayment screening as ineffective, although this was the most likely screen to have implementation problems. Finally, almost all carriers rate the following screens as cost-effective: nursing home visits, new patient office visits, concurrent care, and comprehensive office visits.

We previously noted that carriers use numerous local screens in addition to the 13 mandated screens. We asked each carrier how many such screens it used. The median response was 21, and one carrier had 121 local screens. Apparently, carriers are quite active in this area. Carriers were asked if they would recommend up to 3 of these screens to include in the list of nationally mandated screens. Although the responses to this question were extremely varied, several regular patterns appear. First among these is the carriers' opinion that consultations are being abused. This was mentioned about 20 times by the carriers. This was followed closely by hospital visits. Carriers were concerned both about the number of visits per hospitalization and the number per time period. Third, carriers recommended screening office visits more carefully than is currently mandated. Finally, hospital emergency room visits were cited as an area to review. Detailed recommendations for additional mandated screens are listed in Appendix B.

The number and variety of optional screens attest to carriers' beliefs that variation in medical practice style impacts the relative effectiveness of both national and optional screens. Thirty-six carriers agreed with this statement, versus only six that did not agree. Interestingly, abuses of particular services or procedures were not frequently mentioned by the carriers. Several exceptions to this rule were: multi-channel lab studies, vascular studies and venipuncture, critical care, seat lifts, and ambulance services.

Postpayment medical review (MR) is a process by which practice patterns of physicians/suppliers are compared to statistical norms on them and their specialty groups. The general purpose of this process is to identify suppliers whose practice patterns depart from recognized norms, and to correct overutilization of services by recovery of overpayments, postpayment monitoring and education.

Table 2.2

Carriers' Opinions About Ineffective Mandated Screens

Screen Total	1st Mention	2nd Mention	3rd Mention	
Routine foot care	11	4	1	16
Mycotic nails	0	3	2	5
Nursing home visits	3	0	0	3
New patient office visits	0	1	0	1
Holter and real-time monitoring	0	1	3	4
Chiropractic	0	1	3	4
Concurrent care	0	0	1	1
Hospital visits	6	1	1	8
Comprehensive office visits	1	2	0	3
SNF visits	2	1	2	5
Injections	12	4	3	19
Urological supplies	1	7	2	10
Replacement of post-cataract external prosthetic contact lens	2	7	3	12
None mentioned	6	12	23	41

Knowledge of service area data is one of the most important requirements in operating a postpayment screen. Carriers, therefore, are directed to "use acceptable statistical techniques in your postpayment utilization safeguard system to array data by specialty group." Once the data have been analyzed, carriers are directed to "use the appropriate statistical tool which will best identify the physician/supplier who needs further investigation by the postpayment MR staff." (Citations are from the Medicare Carriers Manual, Part 3-Claims Process, June, 1988, p. 7-141.)

Carriers are required to make postpayment pattern-of-practice comparisons for the following service categories: office visits, home visits, hospital visits, SNF (skilled nursing facility) visits, injections, EKGs, surgery, office lab services, office diagnostic x-ray, and physical therapy. There are two peer practice pattern comparison ratios to calculate for each service: Ratio I is the number of services provided by a physician/supplier per 100 beneficiaries; Ratio II is the number of services per beneficiary who actually received services in that category. After calculating these ratios, carriers are instructed to determine the point at which the ratio exceeds the norm. They may use percentiles,index values, medians, modes, etc.

The Carrier Survey requested each Medicare Part B carrier to furnish the critical value of Ratios I and II that would cause a supplier to be selected for postpayment review. However, the carriers responded that "critical values" could not be determined by simple formulas. Instead, more-complex methods were used. These typically involved selecting a point on the distribution of ratios. In 14 cases the point selected was 2 standard deviations above the mean. Three carriers used a standard deviation other than 2.0, and two used 2.0 standard deviations plus the top 150 physicians.

Three carriers automatically review the top physicians within each category, whether or not these physicians have unusual practice patterns. The chosen cutoffs vary widely: 20, 200, and 300 physicians are selected for review. Four carriers used percentile cutoffs, reviewing the top 25, 20, 5, and 3 percent of all physicians, respectively. Seven carriers used a specified percentage above the mean to select physicians for review. Both of these methods are similar to using a standard deviation-based cutoff, although this would vary widely (for example, reviewing the top 5 percent of all physicians is similar to using a 1.65 standard deviation cutoff, but reviewing the top 25 percent is similar to using a much lower cutoff--about 2/3 of a standard deviation above the mean). Six carriers had no specific standards for postpayment review. Two did not answer this question; one gave an answer that could not be classified; and only two used a specified number for each ratio.

Consequently, it appears that carriers use widely different postpayment standards. Although these differences may reflect optimal adaptations to local environments, it it also possible that some of the standards lack a carefully justified basis. This is especially likely for those that are based on reviewing a predetermined number of physicians. Unless this system is based on an implicit recognition that these physicians have unusual practice patterns, it is difficult to argue that a simple numerical formula, e.g., "review the top 20 physicians," is a well-designed postpayment MR strategy.

As in the case of prepayment review, each carrier was asked to name the skill level of the person who normally performs postpayment medical review. Nurses were mentioned 24 times, followed by claims examiner with limited medical training, mentioned 12 times. These responses clearly indicate that postpayment MR is a more highly skilled function than prepayment review. Fourteen carriers mentioned a second person who performs postpayment MR; this was usually a physician or nurse.

2.2.2. Collapsed Coding

Collapsed coding may be a desirable method for controlling volume and expenditures, although the effect of coding changes cannot be predicted with confidence. How many Medicare carriers have implemented coding system changes, and what is the opinion of those who have implemented them regarding their effectiveness? Each carrier was asked if it has changed the coding of physician services to prevent physicians from "upcoding" procedures (e.g., has the carrier reduced the number of office visit codes it recognizes for payment purposes?).

To our surprise, carriers placed a different interpretation on this seemingly straightforward question. Many responded that they had implemented coding system changes, but what they described was really a downcoding screen. For example, if a physician submitted two claims for initial office visits from the same patient, the second claim was automatically downcoded to a followup visit. When the interviewer attempted to clarify this question, carriers responded that they were required, by law, to recognize HCPCS codes on the claims. Their interpretation of this requirement was that HCPCS codes must also be recognized for billing. It did not appear to them that two codes could be combined or collapsed for billing, e.g., that initial and followup office visits could be paid at a single blended rate.

Since these answers differed so much from our interpretation of the question, this issue was explored in detail in one of the site visits. (Site visits to Medicare carriers are described in section 3.) The site-visited carrier was Transamerica Occidental Life Insurance Company, the Part B carrier for most of southern California. This company was selected, in part, because it had very active medical review and bundling programs; however, it did not appear to use collapsed coding.

According to this carrier, the primary barrier to implementing a collapsed coding program lies in the structure of Medicare's "customary/prevailing/reasonable" (CPR) method of paying physicians. According to this method, Medicare carriers determine the "reasonable" or "allowed" charge for each service as the lowest of: (1) the physician's actual charge for that service; (2) the physician's "customary" charge, defined as the median of his or her charges from the previous fee screen year; or (3) the "prevailing charge," defined as a prespecified percentile of customary charges by all physicians providing that service in the carrier's region.

This carrier believes that collapsed coding would not be allowed by the CPR method and in particular, that it would violate the procedure for determining customary charges. The carrier's concern can be illustrated with two examples. Both examples use the charges submitted by a representative physician for two services: "simple" office visits having a low profile of submitted charges, and "complex" office visits having a high profile of submitted charges. Under example (1), the physician would be required to bill all office visits under the simple code, and the profile of data for the higher code would simply be ignored. This is shown in Figure 2.1, below.

The customary charge for any office visit under the hypothetical coding system would be the customary charge for the simple office visit, denoted CS in Figure 2.1. When this example was presented to the carrier, the objection was that actual charges for the complex service could not be be ignored in determining customary charges under the collapsed code. To do so would violate the physician's rights to have his or her actual charges recognized in determining the customary charge profile.

The second example was then presented to the carrier, in the following manner: suppose that all charges for both simple and complex visits were pooled and a new customary charge was determined at the median of the pooled profiles. As shown in Figure 2.2, the new customary charge might be at point CN, located between CS and CC. The objection to this system was that, even though high-profile charges get factored into CN (raising it above CC), most of the submitted charges for complex visits lie above CN. Thus, the same objection regarding violation of physician's rights applies to this example.

As site visitors, we lacked the expertise to determine if either of these examples is technically or legally possible. The carrier may have been reacting to its perception of HCFA's rules and regulations, or to its perception that physicians in the region would strenuously object to coding system changes, thus making them politically impractical. However, it matters little which of these perceptions is at the heart of the carrier's concern. It is clear in either case that carriers are not willing to initiate coding system changes. These initiatives will have to come from HCFA or from new federal legislation.

One carrier appeared to have a coding system program that went beyond the downcoding screen. This carrier's approach is described verbatim:

> "Although codes were not changed to prevent upcoding, many of the allowances are the same. This occurred when we converted to HCPCS with pricing being equal for many levels contained in CPT-4. Therefore, upcoding is somewhat controlled by the pricing and payments."

Unfortunately, this carrier has not formally evaluated the effectiveness of its coding program. Thus, no evidence is available by which to judge the effect of the coding changes on cost or utilization.

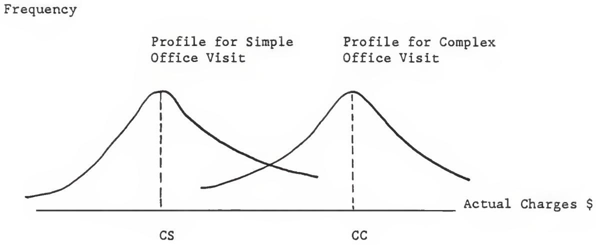
Frequency
Profile for Simple Office Visit
Profile for Complex Office Visit
Actual Charges $
CS
CC

Figure 2.1

Collapsing Codes By Ignoring Submitted Charges for the High-Profile Service

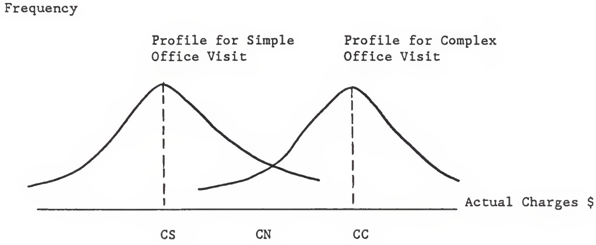
Frequency
Profile for Simple Office Visit
Profile for Complex Office Visit
Actual Charges $
CS
CN
CC

Figure 2.2

Collapsing Codes, Recognizing Submitted Charges for the High-Profile Service

2.2.3. Bundling

Next, carriers were asked if they extensively "bundle" physician services into broader categories, e.g., global fees for surgery. Most of the carriers have such programs for surgery (detailed answers are listed in Appendix B). In one case, the carrier remarked that global fees for surgery have been used in its state "since the beginning of time." In fact 10 carriers have had global fee programs since the inception of Medicare in 1966. Global surgical fees were applied in different ways by the carriers, some of whom appear to be extremely creative in this regard. To quote one carrier:

> "... policy calls for bundling of ancillary services as well as pre and post operative care. There are approximately 700 ancillary combinations. One of our most common combinations is physical therapy treatment to one area plus two or more modalities (e.g., whirlpool, paraffin bath)..."

Another carrier achieved global surgical fees by including pre- and post-operative visits, diagnostics, and incidental surgical procedures in the global fee.

Despite their use of global fees for surgery, few carriers have extended the bundling concept to other services. Responses to an open-ended question revealed these exceptions: three carriers had a single fee for automated lab panels; and two carriers applied bundling to all bills for the same month, place of service, type of service, procedure code and provider number (except for pathology, anesthesiology and psychiatric services that have specific lumping guidelines).

2.2.4. Other Methods of Controlling Volume and Intensity

The last question on the Carrier Survey gave each carrier the opportunity to "Describe other techniques for controlling volume and intensity that you have successfully used under Part B of Medicare." Responses to this open-ended question were read and analyzed. Detailed responses are listed in Appendix B. The most frequently mentioned activity was physician education. This often took the form of simple newsletters. More comprehensive educational programs involve the carrier's provider relations department in telephone contacts or on-site visits to the doctors. Although the effectiveness of educational programs is difficult to evaluate, several carriers mentioned high rates of physician compliance and one even cited a "savings" of almost $1 million.

It appears that education is most effective if conducted in a non-adversarial fashion. One carrier described the following approach:

> "The P.R. (provider relations) department presents monthly seminars to educate providers/suppliers. Quarterly bulletins are sent. We have the ability to print messages at the bottom of EOMB's. The post payment unit presents documentation seminars at hospitals and for physician groups. We work closely with our

> Medical Director to keep abreast of the current patterns in medical practice. Physicians/suppliers who present patterns of overutilization can be put on a prepayment review to better control his (sic) volume of work processed and collect data to educate him."

Similar comments could be made about the educational programs used by other carriers. This non-adversarial approach suggests that guidelines and education are more likely to be effective when they are clearly defined, data based, professionally derived, and emanate from respected sources.

Another general conclusion to be drawn from these open-ended responses is that carriers know who the "bad doctors" are. Several mentioned that postpayment review has identified individual physicians who present patterns of upcoding and overutilization. Specific screens may be devised for these providers. For example, one carrier systemativally denied specified procedures when billed by a designated physician. Another noted that postpayment review has identified several physicians having patterns of upcoding. Prepayment screens have been developed for these individuals which reduce the level of payment if documentation for the higher code is not provided. Finally, the carriers claim to have aggressive fraud and abuse programs for physicians who habitually abuse the Medicare program.

2.3. Discussion

All Medicare carriers use prepayment screens to review the appropriateness of physician services. Many carriers had these screens before they were mandated and, in some cases, their pre-mandate screening parameters were tighter than those currently used. Several mandated prepayment screens were frequently believed to be as ineffective, whereas other optional screens were suggested for inclusion in the list of mandated screens.

Medicare carriers suggested that new screens be introduced along with programs to educate physicians about these screens. In general, implementation issues are important and should not be ignored. On the other hand, provider resistance to prepayment screens is not necessarily a sign that they are ineffective.

Medicare carriers operate vigorous postpayment review programs. In many cases, physicians are reviewed if their practice patterns are more than 2 standard deviations from the norm. However, the criteria for postpayment review are not uniform. Standards based on reviewing a prespecified number of physicians may be difficult to justify in terms of detecting unusual practice patterns.

Perhaps the most significant result from our survey is that Medicare carriers have not used innovative approaches to bundle physician services and to collapse the codes used for paying physicians. The respondents, by and large, believe that they must recognize HCPCS codes for billing. Medicare carriers frequently use global fees for surgery, but otherwise they have generally not attempted to bundle physician services into broader reimbursement packages.

Physician education and feedback are utilized extensively by the carriers. This may be due to the fact that they operate active postpayment review programs, and this is the area where physician education is most likely to occur. Medicare carriers, in general, are sensitive to the need for physician education and information programs.

3. SITE VISITS TO CARRIERS

3.1. Technical Approach

Three Medicare Part B carriers were identified for on-site visits after the completion of the written surveys and telephone follow-up conversation. The sites were chosen because they appeared to be innovative and because the people we talked to in these organizations seemed to have definite opinions regarding how to control the volume of bad claims. These carriers were also reputed to have efficient operations.

The sites visited were Pennsylvania Blue Shield, Transamerica Occidental Life Insurance Company, and Empire Blue Cross and Blue Shield. Researchers from the University of Minnesota spent a day at each site. Representatives from HCFA's Baltimore office were also present at two of the visits and a representative from the carrier's regional office was present for at least part of all visits. The purpose of these visits was (1) to gather information on the innovative policies that these carriers practiced and (2) to communicate to HCFA any concerns that these firms might have in carrying out HCFA policies. This report summarizes our findings.

3.2 Summary of Findings

The visits were organized by the individual carriers and, therefore, tended to focus on the carrier's strengths. Although we found many differences in the way in which each contractor conducted pre- and post-payment review, many of their concerns were similar. The following areas emerged as common areas of concern.

3.2.1. Budget

Budgeting on a yearly basis and the yearly fluctuating of the budget creates problems. It impedes carriers from using their available data to improve the review process. Foremost, yearly budgeting inhibits the contractor from adequately testing the effectiveness of new screens. Screens are developed as a result of postpayment review experiences, observations by claims reviewers, and through the work of nurses, medical advisors and researchers who are charged specifically with developing new screens. Frustration comes from the inability to conduct pre-tests on new screens, to review the effect of new mandated screens on a physician's practice patterns, and to analyze the data on a new technology where a profile has not been developed. With a budget for only a one year period, the carrier does not have flexibility to risk developing a screen that might not be cost effective. In addition, the carriers hesitate to hire personnel to write grants, to do the research they believe would help them contain costs, or to identify new methods for detecting abuse or fraud. Even in a year when money might be available, there is uncertainty that the support will continue.

One carrier suggested that budgeting be tied to good performance. For example, if a carrier's Contractor Performance Evaluation Program fell into the top 10 percent, it could elect to budget for a three year period. This added flexibility would encourage top carriers to actively look for unique approaches to improve the system. Excellent performance would be rewarded and would provide the contractor some leeway. The incentive of a longer budget cycle would motivate carriers to use their expertise to explore ideas they presently feel constrained from pursuing.

Budgetary constraints are a disincentive for aggressive medical review. The balance between dollars spent on review and the dollars saved as a result of the review process presents a precarious tension to the carrier who is concerned about cost effectiveness in prepayment review.

3.2.2 Pre- and Postpayment Review

The strong emphasis on timeliness of payment and the establishment of perfomance guidelines in this regard acts as a disincentive to pursuing aggressive medical review. In prepayment review, the decision not to pursue medical review in many instances is made because it could jeopardize timely claim processing. The feeling that other carriers might be going through only a cursory medical review was expressed. These performance standards added to the anxiety of devoting time to extensive medical review, especially when a savings is uncertain.

Postpayment review is a very costly item for all carriers. Discussions of the postpayment review process consumed a major portion of each visit. The carriers' concern probably stems from the fact that postpayment review is very costly to the carrier and, therefore, does not appear to be cost effective. Yet, they all regard it as indispensible. Most of the benefits of postpayment review cannot be quantified, but carriers stress its impact. Postpayment review provides material to develop new screens. It also allows a carrier to flag a provider for a year to observe if the physician's behavior has been modified. Carriers feel it serves as a sentinel effect in the provider community, but they do not have the resources to measure the benefits of this effect. Carriers hope it protects the beneficiaries from unnecessary care. Carriers find fraud and abuse through these reviews. Postpayment review also serves to educate providers who have misunderstood the system.

The period of time required for a complete postpayment review (up to 5 years) is a cause of frustration for the carriers. After their work is completed and the case is referred to the Office of the Inspector General (OIG), lengthy delays can occur for undefined reasons. The carrier who has labored intensively to review a case is left without the satisfaction of completing the case, does not participate in the recovery of the overpayment, and is not able to suspend payments to that physician until the review is finally resolved. In the interviews, no carrier explicitly mentioned that postpayment review was in any way threatened by this process, but the desire for HCFA to provide better reinforcement of postpayment review was mentioned repeatedly.

Problems with billing for services delivered, either inpatient or outpatient, are prevalent. The proliferation of codes for visits, services, and procedures has encouraged providers to bill for services not previously billed for and to bill at a higher code than service delivered.

3.2.3. Screens

Adequate lead time is needed when a new mandated screen is introduced. Every site commented that the lead time is sometimes inadequate for the carrier to establish medical policy that is appropriate for the area. Not only must employees be trained, but providers must be alerted to the new screen. To effectively install a screen, it is necessary to have adequate adjustment time both within the organization and the provider community. This is the case even if the new screen had been an optional screen before becoming HCFA mandated. Future dollars and goodwill can be saved if the physician/service community is informed and educated before a screen is activated. A short lead time makes this difficult.

Mandated screens are not necessarily appropriate or useful in all regions of the country. The result is that contractors are forced to carry screens that are not cost effective. Methods might be developed so that a carrier could set aside a mandated screen, much as they do an optional screen, when it is no longer useful. Universal criteria for opting out of a mandated screen could be set, or each carrier could provide proof that the screen was no longer useful.

The "upcoding" and "fragmentation" of billing are recognized and dealt with by the carriers through a variety of screens. Carriers felt they were having some success with modifying physicians' behavior in billing, but there was a consensus that a uniform national approach would be helpful in some cases. All could benefit from a screening mechanism to deal with ancillary services in order to prevent payment of itemized charges that are considered an integral part of some medical or surgical procedures.

All carriers should be checked to see if mandated screens are being correctly implemented.

3.2.4. Communications

These carriers all have excellent relations with their regional offices. The proximity and frequent contact between carriers and representatives from the regional office could account for this. On the other hand, the contractors expressed concern that ideas generated by each carrier were not shared, among carriers. Enormous organizational energy is spent on reports to HCFA which often include suggestions for improvements in the system. Yet, each carrier felt its ideas were lost in the process, nor was it receiving the benefits of insights from other carriers. Every carrier recognizes that HCFA cannot practically or responsibly use all new ideas, yet, each carrier internally encourages innovations and suggestions from its staff.

This atmosphere of listening to those who work intimately with a microcosm of the system encourages productivity. HCFA might use this as a model. A clearinghouse for carrier-generated ideas and observations could be established through a newsletter or an informal network among regional offices.

Membership in the Technical Advisory Group (TAG) is highly valued. Each site feels this gives it an advantage over non-TAG contractors, by being part of an "inside" group and benefitting from relationships with other TAG members. In this arena the expertise of each carrier member is utilized. They feel, however, that the operation is one sided, lacking a real exchange of information between TAG and HCFA. They would like more of a dialogue between TAG and HCFA. A similar organizational method of working with weaker carriers could also be a device to improve carrier effectiveness.

Competition among carriers is keen. The assumption is made that this is an intentional method used by HCFA to reap the best possible performance from each carrier. One negative result of this competitive environment, however, is that it inhibits innovation. A carrier cannot afford to risk making changes or adding a program that might not work, for fear of falling behind other carriers. Competition may also inhibit the dissemination of new ideas among carriers, especially if the innovations lead to competitive advantages in the performance criteria HCFA uses to evaluate carriers and award contracts.

HCFA representatives present during the visits explained that the short time frame for implementation of changes is usually the result of pressures from Congress. An explanation of the reasons for the changes could make their implementation easier.

3.2.5. Other

Variations in physician practice patterns across the country are of interest to the carriers we visited. If practice styles differ from region to region yet the screen parameters remain constant, carriers may have ineffective medical review in some areas and overly rigorous review in others. Within the geographic boundaries of a carrier, different practice patterns are discerned and area-specific peer profiles are sometimes developed. Regional differences, practically speaking, must be recognized.

At the same time, when carriers perceive a utilization problem that physicians claim is due to practice style variation, reconciliation should come from national studies of the efficacy of the treatment in question. National policy based on such studies would be helpful to the carriers since it would give them scientifically justifiable guidelines for resolving these disputes.

It is the case that some decisions coming from HCFA are perceived to be politically motivated. Carriers also attribute the inappropriateness of some mandated screens to political considerations.

The subject of Medicare as secondary payor was introduced as an example of HCFA requesting the carrier to save dollars with a very short lead time and no additional budget to accomplish the task. Obtaining information on other insurance coverages is difficult because it requires going back to the beneficiary to get the necessary information. It is not always easy to get this information and, even when successful, the information is sometimes inaccurate. Payment to the provider is delayed if the beneficiary does not provide the necessary information. A great deal of time must be spent explaining the problem to the provider. The burden of educating beneficiaries is also on the carrier. As one carrier stated, if it is successful in educating the beneficiary and the provider so that a claim goes directly to the primary carrier, the Medicare contractor will never see this part of the claim and, therefore, will not be able to report a savings.

3.3 Detailed Site Visit Reports

3.3.1. Pennsylvania Blue Shield

Pennsylvania Blue Shield (PBS), located in Camp Hill, Pennsylvania, is a large sprawling complex situated in a picturesque suburban area. Observing employees pass through the halls, one is made to feel that this organization gives its workers a sense of belonging and importance. Forty-two percent of the 4,836 PBS employees work in Medicare Part B.

PBS has been a Medicare Part B carrier for Pennsylvania since 1966. In 1981 Delaware and the District of Columbia were added. New Jersey is to join PBS in January 1989, as a result of Prudential withdrawing from the Medicare business. All but the provider relations department and a Medical Director for New Jersey will be located in the Pennsylvania site.

PBS is described as being an atypical carrier by its regional office. It is perceived to be the most highly automated carrier in the nation, with the most extensive prepayment Medicare review program. Those responsible for Medicare operations and support services feel their operation is extremely efficient and cost effective. With 3,187,792 beneficiaries and 80,979 providers, it is the largest Medicare contractor in the country. About 90 percent of all claims processed are assigned.

PBS's state-of-the-art equipment assists them in achieving their fast claims processing. Onsite microfilm development has added efficiency and quality to the daily operation. It feels that continuous effort to train employees produces a high degree of accuracy in claims processing, which is essential for controlling costs. PBS has been very successful in building its case for sophisticated equipment with HCFA. The vice-president of Medicare Operations seems to have been instrumental in influencing the strategic decisions to develop these systems. Administrative costs per unit for processing claims are considerably lower than the national average.

Use of Physicians. The Medical Directors and Advisors of PBS are directly involved in the establishment of policy and claims settlement. The medical directors are salaried by PBS. The medical advisors are used in a consulting role and are employed on a case-by-case basis for which they are paid hourly wages. They are either consulted for input on utilization or for a recommendation on the establishment of fee for reimbursement where an adequate profile has not been developed. Although over 350 physicians are employed and professional practice differences are considered, the carrier aims for uniformity whenever possible. Because PBS covers a large geographic area, there appears to be considerable diversity in practice patterns.

The Vice President of Professional Affairs (a physician in the private side of the corporate structure) is the primary liaison with the medical community. Medical directors are not directly involved with public relations with the physicians in the community. With the acquisition of the New Jersey area, a medical director for that area will be hired, but the medical policy established by the PBS Board basically will be retained. Management personnel from the Medicare division are frequently invited to attend meetings with the medical community because of the technical and procedural nature of the Medicare issues that are likely to arise. Most medical policy originates in the private side of PBS and is adopted as medical policy for Medicare unless it is in conflict with HCFA policy. It was noted that PBS might not pay for a certain service because it is not covered by Medicare, but it might be covered by the private contracts and therefore reimbursed on the private side.

One of the frustrations mentioned by the Vice President of Medicare Support Services was the continued conflict between the need to work individually with physicians who do not understand the ins and outs of Medicare, on the one hand, and the expense of actually sending a staff person to work with a physician and his/her staff in their office, on the other.

Provider Relationships. PBS feels that relationships with providers are reasonably good. Most physicians are interested in working with PBS and in policing themselves, but they seem to resent its increasing intrusion into their practices. In order to work comfortably with the provider community, PBS keeps them informed about changes such as the introduction of a new mandated screen. Management works with the medical consultants to set appropriate policy for processing suspensions. Providers who will be affected are informed of the guidelines being used and the date of implementation.

The regional office representative noted that, if providers understand why screens are in place, they are more likely to accept them. There are very few complaints in the regional office related to prepayment review. On the other hand postpayment review causes considerable concern. The difference is that prepayment screens are service specific, whereas postpayment screens are provider specific.

Philosophy of the Government Business Division. One of the stated goals is to turn claims around as quickly as possible. This goal represents a disincentive to aggressively pursue medical review on many occasions. Both the time frame and the budget impose constraints on an ideal medical review. The constant need to balance the time and money spent on reviewing claims is factored into the prepayment medical review. Competition to be in the top 10 percent of the contractor performance evaluation reports appears to be very important in formulating medical review strategy.

Part of the success of PBS is attributed to a dynamic atmosphere where employees are encouraged to make suggestions for new directions. Management encourages new ideas and changes. Suggestions are reviewed and are frequently adopted. One employee's recent suggestion saved the equivalent of 3 full time employees.

As an example of its successful management style, PBS has a subsidiary that sells its basic system (including the claim processing software package they developed), yet when the system has been installed at other contractor sites, these contractors have been unable to achieve the bottom line produced by PBS. PBS stressed that its system management and the degree of innovation coming from the staff who use the system make the difference.

Innovations. The Vice President of Medicare Operations was asked to name the innovations that he felt set PBS apart from other carriers and accounted for its success as an efficient, cost effective contractor. The need for balance was highlighted, specifically keeping the appropriate allocation of resources between prepayment utilization review and postpayment review. Added to this, the decision of how aggressive one can be in prepayment review must be determined by the amount of funding available while meeting the performance standards required by HCFA. It was noted that there is no real incentive for carriers to invest more than is required in Medical Review. In PBS the driving force for reimbursement to providers for only reasonable and necessary care came initially from the private side. In recent years this has shifted to the Medicare Operations side of the corporation due to rapidly accelerating health care costs at the national level, particularly with Medicare costs.

It is recognized that HCFA must have some guidelines for timely reimbursement, but meeting these standards inhibits innovation. Effective prepayment review is difficult within the context of performance criteria. By increasing the number of manual screens, contractors can produce more medical review savings. However, this also increases the unit cost for conducting medical review. The medical review system is handled as efficiently as possible to keep each screen cost effective.

Management looks at the cost effectiveness of optional screens, eliminating unnecessary screens where there are no dollars saved. With this mode of operation they continue to save the same dollars, while reducing the administrative work load.

When new mandated screens are introduced by HCFA it is likely that a similar screen is already in place. The carrier screen is reviewed and in all likelihood retained. If PBS has a tighter screen than the HCFA screen, it must still incorporate the mandated screen. It is felt that sometimes the mandated screens are not as cost effective as they could be, either because the parameters could be more stringent or their ability to catch bad claims diminishes after providers change their practice behavior.

Postpayment Review. PBS prides itself on its Utilization Review Department, which handles all potential abuse or overutilization cases. Beneficiary complaints are also handled including excessive physician fees and improper delivery of services (either too little or too much). PBS uses a procedure report as one identification of the 3 percent of physician/suppliers to be reviewed. PBS believes that the identification of providers through the compiling of utilization information on similar procedures is unique and is an example of a successful process that could be shared through HCFA with other carriers.

PBS provided a detailed account of its postpayment review process. In summary, although the process can at times be costly, it is of great value as a means of identifying new prepayment screens. Correcting program abuse and educating providers regarding acceptable methods of reporting is also a goal of the process and is in compliance with HCFA and PBS policies. Routinely upon completion of any investigational or educational episode, the physician is monitored through either the prepayment or postpayment review, or both. If after a year it appears the billing pattern has been corrected, the monitoring is discontinued. Some providers either refuse to correct their billing patterns or continue to circumvent the system in other ways. Documented cases of potential program abuse, non-compliance, and fraud are then referred by the carrier to the Office of the Inspector General.

In cases involving potential criminal or civil litigation, the review process requires extensive development, but the sentinel effect of prosecution is of value to all aspects of the Medicare program. While engaged in the review, there can be the need to work closely with the provider being reviewed through field visits, letters, and extensive documentation. In comparison to prepayment review, the postpay review process results in a lower cost/benefit ratio. On the other hand, it is necessary because it insures reimbursement for only reasonable and medically necessary services. The sentinel effect of postpayment review is not quantifiable, but probably has a significant impact on the provider community.

In concluding the discussion of postpayment review, it was pointed out that the recent HCFA changes will not adversely effect PBS because most of the procedural changes are already part of its system. PBS, however, could not speak for the other carriers who might have problems implementing the changes. In addition, last year PBS added specific enhancements to its present postpayment review process. In the past when the initial 3 percent identification was done, PBS selected providers whose individual ratio equalled the norm using 100 as the mean for the norm. PBS was concerned that some physicians would not be identified in a norm calculation and, as a result, could be missed. They also identified any procedure where the allowed amount for that procedure was at least 50 percent of the physician's total Medicare practice volume. This enhancement came about as a direct result of the high use of seat lifts. This parameter will allow high cost items to be identified in payouts to a high cost provider. PBS feels that these additions put more teeth into the post payment review process.

Upcoding/Fragmentation of Billing. Problems in upcoding were summarized in response to an inquiry from the policy and technical assistance branch of HCFA to PBS and were shared with the research team. The following examples were given:

> Providers submit itemized services for charges that are considered an integral part of the medical or surgical care area and therefore are not eligible as separate and distinct services.
>
> Providers bill professional and technical components separately rather than as one global service.
>
> Providers may bill medical visits as extended or intermediate visits when closer review reveals that a lower paid visit was actually performed. This situation can be identified in either a prepayment or postpayment review.
>
> Lab tests are submitted as itemized services in cases where they should be submitted under a panel procedure code.

To counter these claims, PBS has prepayment screens in place to catch certain frequently encountered fragmented billing problems. For example, pre- and post-operative care screens prevent payment of Medicare visits that are considered a part of surgical global fees. In addition, total charge screening mechanisms avoid separate payment for technical and professional components of diagnostic or radiology tests. PBS also has an automated approach for ancillary services. Upgrading is often identified through the utilization review department activities that are geared to identify unique provider billing patterns that vary from other providers. The Medical Director staff is often involved in these decisions.

Physician practice styles vary greatly in the extensive area covered by PBS. There is also great diversity in the demographics of the area. Because of the number of teaching centers there is a high concentration of unique specialties. The addition of New Jersey will add another dimension to the diversity to the area.

Suggestions. PBS feels it possesses much valuable data that it is unable to use to its advantage, or HCFA's, because of a lack of resources. Further data analysis would profit all carriers and probably should be supported by HCFA. PBS's private business seems to be more aggressive in analyzing trends in data, and in using more sophisticated programs to analyze data. This is probably because there are more resources available for this analysis. Although PBS does look at trends in practice patterns to develop new screens, it feels that its data is essentially an untapped resource.

PBS feels it cannot afford to invest in a major data extraction program as this would put PBS at a disadvantage to other contractors for total unit cost. Internal initiative must be matched with funding from HCFA. While PBS feels that HCFA would benefit by investing in more sophisticated trend analysis, there is no incentive for the carriers to do so. This carrier, although it appears to have an excellent relationship with the regional office, still mentioned the need for support and encouragement from HCFA to pursue innovations.

The need for continued funding support or a budgeting process for a two or three year time frame was a recurring theme during the interview. PBS is an example of a carrier who feels it has the potential to evolve a cost-saving methodology. Without the assurance of funding over a multi-year period, it cannot afford to risk putting such programs in place. The time necessary to adequately test a new program and the commitment for continued funding seems to be prerequisite for further innovation.

There was also the sense that HCFA could share findings from other carriers' quarterly reports. HCFA reports do include new observations, but there is no process to share new ideas or insights with other carriers. It was noted that contractors who are a part of TAG do benefit from the interchange among TAG members.

Of prime concern is the budgeting process on a yearly basis. It was suggested that if a contractor is doing a good job, it could develop a three year budget. This funding reliability would allow for the development of new programs as is done in the private sector. Because HCFA contracts are on a yearly basis, contractors are forced into unnecessary staffing flexibility.

When a contractor is meeting performance standards, it is not in its interest to experiment with innovative programs such as managed care or capitation. PBS feels it cannot utilize limited resources to write grants due to budgetary constraints. Efficient and effective running of day to day operations consumes its resources.

3.3.2 Transamerica Occidental Life Insurance Company

Transamerica Occidental Life Insurance Company has been a Medicare carrier since 1965. The Vice President and Chief Medicare Administrator has been with Transamerica since 1964. The Medical Director has been with Transamerica since 1967. Transamerica has over 1,500,000 beneficiaries and 43,357 providers. The oversupply of physicians in the area could account for the fact that about 85 percent of the physicians accept assignment. One has the sense that this is a very confident operation that does not take the responsibilities of the Medicare contract lightly, but is also comfortable with it's success as a long-time contractor. There were no discernable differences between Transamerica as a commercial insurance carrier and the Blues or non-profit carriers visited by the research team.

Transamerica is a large multi-building complex built on the fringe of downtown Los Angeles. The Medicare operation is a very small and separate part of the corporate business. Transamerica has recently given up its private group health insurance business. It still continues to carry some private health insurance plans of its clients, but no longer has any group health insurance plans. The view was expressed by the Vice President that private carriers had contributed significantly to health care inflation, because they, unlike Medicare, were only a pass-through reimbursement mechanism for care provided. Private companies, if they do not pay usual and customary costs, find it very difficult to sell policies. On the other hand, with the federal government behind the Medicare carriers, there are advantages to working with providers. More and more private companies are using government policy as the model for cost containment, yet Transamerica still made the decision to get out of the private group health insurance business.

The working relationship with the Blue Shield carrier that covers the state north of Transamerica's seven-county area is cordial, with an open communication and exchange of information. The representative from the regional office has worked with both the Blues and now with Transamerica and noted little difference in the budgeting and monitoring process of the Medicare contracts. She did note that Blue Shield had an advantage in that it also had group health insurance business to share responsibilities in formulating medical policy as well as sharing marketing and systems resources. An active nationwide association also was a support and source of information. She thought that the Medicare contract was more important to the Blues than to the commercial carrier. The Vice President of Medicare Operations felt that Blue Shield, with its physician membership, is more sensitive to the effect of Medicare on the doctor community. With Blue Shield, the Medicare contract is a large part of the business, while it is a "drop in the bucket" for the seven commercial Medicare carriers across the country.

The importance of being a Medicare contractor was also explored, particularly for this commercial carrier which had come to a corporate decision that it was no longer in the corporation's interest to offer group health insurance plans. Historically, the primary reason to participate as a Medicare carrier was the possibility of influencing the system. Early on it seemed that Medicare policy would greatly impact all health insurance reimbursement. As a Medicare carrier, therefore, one could have some impact on future directions. More practically, as a Medicare Part B contractor, one's name is published throughout the state. This was a very good marketing device, particularly when Transamerica was in the health insurance business. It also appears that there is a genuine pride in being a successful carrier as measured by HCFA against other carriers in the Carrier Performance Evaluation Program. This competition is particularly evident between private carriers and the Blues.

Relations with Medical Community. Southern California is the repository of the physician entrepreneurial spirit. In addition to the "60 minute practitioners," there is a large academic and teaching community to work with, as well as the traditional community practitioners. It was stated that the relationship between carrier and providers is not adversarial.

Some of the carrier's success is attributed to the excellent relations it has with the medical community, credited to an excellent group of medical advisers. In the beginning the physicians reviewed claims that now are reviewed by experienced lay employees. Over the years, the plan and the providers have moved closer to each other, but cries of doctors being forced to practice "cook book medicine" and of being evaluated by high school drop-outs are still heard.

Regarding the screens, the "concurrent care" screen caused difficulty initially because there were no allowances for subspecialities. Presently Transamerica is having difficulty with the regional office's interpretation of the screen. HCFA feels that the claim should be suspended if more than one specialist sees a hospitalized patient on the first day. The carrier feels that the case should not be suspended until after ten days. It feels that one day is too early in the patient's care to question the necessity of concurrent care. This is an example of a mandated screen where the objections from carriers resulted in HCFA re-examining a parameter. Other cases were cited where mandated screens eventually proved not to be cost effective because the provider community had been educated and practice patterns were changed. Myotic nails and SNF are examples of this sentinel effect. These screens continue to be retained because, in the final analysis, the carrier is under contract to HCFA and must perform as mandated by HCFA.

Screens. Transamerica has a group which does research solely to establish new screens. This group is developing internal programs to look at categories of care for additional screens. Information to consider changes comes from a variety of sources. New technology, aberrations in practice, and complaints from beneficiaries are all signals for changes in policy and development of new guidelines. Intensively used screens will be refined for greater effectiveness. More indepth guidelines for conducting reviews are also being developed. The aim is to make the initial guidelines so stringent that most of the editing is done before the claim hits the screen. Management feels that early training of workers at this level has created an atmosphere sensitive to catching fraud and abuse.

Transamerica has a very strong postpayment review operation. In times of budgetary constraint, every effort has been made to retain these people because their level of expertise is difficult to replace and their knowledge comes from accumulated experience. In addition to capturing fraud and abuse, postpayment review is used to add new screens, to monitor screens and to set aside screens that are no longer cost effective. Discontinued screens can be reinstituted if indicated. (This might occur if physicians realize that a screen is no longer being used and revert to past practice patterns.) A screen is valued by how effective it is for the claim examiner to use, the dollars saved, and the ease with which it can be reinstated once it has been removed.

The telephone and written survey suggested that some carriers, who used a screen before it was mandated by HCFA, readjusted the screen down to conform with HCFA's parameters. Transamerica stated that when funding is tight it cannot afford to keep its tighter optional screen if the HCFA mandated screen is looser. Parameters tend to fluctuate with HCFA funding. For budgetary reasons, screens can go from daily, to weekly, to quarterly to yearly, unless otherwise mandated by HCFA.

Front-end screens are very extensive and are referred to as "blink" and "highlighting." This signals the worker that a guideline should be checked. In a world of carrier acronyms, this is referred to as GUE (gross utilization edit). This sophisticated front-end screening done by low-level workers in part explains the physicians' view that persons lacking medical training are making practice decisions.

Fragmented Billing. An example of Transamerica's extensive editing is its policy for capturing fragmented billing for dialysis. Even though is may not be cost effective, there is 100 percent review. Because the screens have generated a high volume of suspended claims, Transamerica is considering further automation. This example points out that some screens, which do not save dollars, are nevertheless mandated. These screens remain in place because they are the only mechanism to capture fragmented billing and to avoid being assessed for errors by HCFA.

Innovations. Innovation and uniqueness are not readily used terms at Transamerica. The company has a job to do as a Medicare Part B contractor and, within its budget and the rules of Medicare, this job is performed as efficiently as possible. This year Transamerica was budgeted for more dollars than it requested. Part of the additional funding will be used to hire three nurses who will develop internal programs to review different categories of care. They also will develop screens to edit supplier files and some subspecialties. Money will also be used for more indepth training and for splitting some screens.

Relations with HCFA. When queried about how HCFA and the carrier could more effectively work together, there was the feeling that quarterly reports to HCFA were not used to their fullest advantage by HCFA. Carriers were supplying information that might be of value to other carriers, yet it was not being passed on. As a member of TAG, there was information sharing but this was only among TAG members and in recent years TAG work specifically has related to postpayment review.

Frustration about how budgets are developed was evident. HCFA looks at the carrier's medical review budget the previous year, regardless of what was saved, be it 12 to 1, 30 to 1, or 1 to 1. Thus the incentive to save dollars appears to be continuously balanced with the total Carrier Performance Evaluation Program, which includes time frame of payment as an important factor.

It is interesting to note that the carrier feels that there is almost no room for negotiation of its budget with HCFA, though HCFA sees the process as one of negotiation after the extrapolated data has been given to HCFA by the carrier. The carrier feels the strain of doing the best possible job with the available funding. As summarized by the Vice President of Medicare Operations, managing resources to provide medical care for those who otherwise might not receive it, while saving monies, must be accomplished in a cost-driven environment.

Summary. Transamerica is continually working to automate its system. Physicians are used to develop the policy, but day-to-day reviews are largely done by non-medical staff due to the higher cost of nurses and doctors. The history of cost control in California, beginning with the development of the California Relative Value Scale (CRVS) in the '60's, has produced an environment where practice patterns are strongly influenced, if not controlled, by the insurance carriers.

Because of its long history as a carrier, Transamerica's insights into how costs escalate are of interest. It was noted that when Medicare begins to pay for something, costs increase dramatically. Immuno-suppressive drugs were used as an example, their unit cost having increased over a two year period from $160 to $220. The conclusion that can be drawn is that when a code is established, the physician or supplier will take advantage of it. The example of comprehensive hospital admission was cited as a case where the highest code is used on the bill even when the service has not been delivered. Increased costs are also attributed to the use of new technologies where profiles have not been established. These observations by the carrier have not yet been explored to their fullest. This is probably due to the reactive nature of the system.

3.3.3. Empire Blue Cross and Blue Shield

Empire Blue Cross and Blue Shield is located in midtown Manhattan. The Medicare Operation has two satellites where some of the daily operations such as claims entry are completed. An efficient communications system is in place and there appear to be no problems related to retrieval or turnaround time. There are three Part B carriers in the state of New York. One of the three is located in Queens (Group Health, Incorporated). These two carriers pool data for pricing purposes, yet, one senses that the close proximity and an overlap of providers between the two carriers raises the competitive level beyond the usual Medicare Part B carrier competition. Between Medicare Part A and Part B, there are 2.2 million beneficiaries and 46,000 providers served by this carrier. Of the providers, 78.7 percent accept assignment, the smallest percent of the three sites visited. Three thousand of the 10,000 Empire employees work for Medicare Part A and Part B.

Empire enjoys the Medicare carrier role, which allows it to fully serve its constituents--both providers and beneficiaries. Economies of scale benefit the public and private side of the corporate enterprise. There is a good balance between these two sectors, with a sharing of medical policy. At this time medical policy largely emanates from the Medicare operation. The corporation finds it very convenient to have the utilization review that is created by the HCFA medical policy available for use on the private side. A greater specificity has been added to Medical review due to the influence of Medicare. The addition of the Medicare contract adds to the prestige and visibility of Empire.

Use of Physicians. The full-time Medical Director of Empire determines medical policy and medical expertise for the public and private sectors of the organization. Both sectors have similar expectations relating to the scientific and contractual side of medical policy. If a service is deemed medically necessary by Medicare, it is usually also covered on the private side. On the other hand, some services covered under contract in the private side are not explicitly recognized by Medicare and therefore are not reimbursable. MRI and electromagnetic treatment for bone fractures are two examples of procedures that were covered by the private side before they were recognized by Medicare. The medical director made the point that this happens, in part, because Empire works with 43 private groups wanting different coverage plans, compared to one government plan.

Empire has a large medical staff of experienced physicians who also are in private practice. It also has a cadre of periodic consultants who represent the prominent medical specialty societies in the state. These physicians are used to develop or certify policy, and for postpayment review. All medical consultants are advisory, with the medical director serving as the common final pathway. All specialist groups have special liaison committees. These groups understand that they have access to the corporation at every level of policy making and at all levels of claims review. The medical director also keeps in touch with the medical community by serving on a variety of medical committees.

Another method of communication has recently emerged on the scene in this part of the country. Groups of physicians, or a specialty, hire consultants to represent them in meetings with Empire. These non-physician spokesmen add another dimension and expense to the health care delivery system.

Board of Directors. Empire Blue Cross-Blue Shield Board is composed of 10 providers, 15 subscribers, and 15 members of the general public. Blue Shield went bankrupt in the early 1970s, its Board was abolished, and it was basically absorbed by Blue Cross. Previously they had been separate organizations sharing a common marketing structure.

HCFA Relationships. Unlike the other sites, the HCFA representative from the regional office has an office on the same floor as the Medicare operation. His time is divided between Empire and the regional office. We could not discern any way in which this proximity influenced the carrier's relationship with HCFA.

Like the other sites visited, Empire is a TAG member. This is a valued relationship and Empire feels that the advantages of TAG membership are particularly beneficial from a collegial standpoint. Informally the director of medical operations used the network for exchanging information.

More lead time to test mandated screens would be helpful. When a screen must be put in place quickly, there is no time for discussion with HCFA or other carriers. There also is no time to test the screen. This problem does not occur frequently because Empire noted it often has a similar screen already in place.

Provider Relationships. "We are their major enemy." This was the response when the medical director was asked how the providers viewed Empire. He went on to say that there is a genuine conflict of interest between payor and provider. The providers' expenses are going up and no one is controlling malpractice premiums or the general costs of practice. Providers concerned with quality of care find that they must spend more and more time on paper work and the economics of care, rather than on patient care. Most physicians are not interested in the entrepreneurial aspects of medicine. A marketplace of struggle with ideas and methodology exists. This explanation of the physician's side of the issue is probably attributable to the objectivity of the medical director who seems to be able to distance himself and maintain neutrality normally not encountered in either the provider or carrier world.

As with the other sites visited, relationships with the physicians improve as the doctors better understand the system and the mechanism for processing claims. Physicians make suggestions to improve the system, but these suggestions are often found to be either impractical or idiosyncratic. In one county, the physicians insisted on reviewing all appeals. Empire allowed them to do this for a period of time, but ultimately had to withdraw the external physician review process. The reviews completed by the physicians in the county proved to be superficial and incomplete. The end result was that the physicians under review were put at a disadvantage. The needed documentation to justify the care given to the patient by the physician under review was not a part of the review process.

The continued increases in care delivered and thus dollars spent was considered. Whether this is a result of defensive medicine, overutilization, a response to the real or imagined needs of the aged, or fragmentation in billing caused by limiting resources, was discussed.

The director of Medicare operations feels that the education of medical students should incorporate information about the Medicare billing processes. The medical director agreed on the need to educate students and practitioners about the limits of reimbursement by health insurance plans. He also pointed out that a coding system developed to measure morbidity (CPT) has been coopted for reimbursement. Services and procedures that had never been covered before, and were never meant to be covered, are now being separately coded by physicians for reimbursement purposes. This is part of the continual tension between provider and payor with regard to what should be paid for and what is not reimbursable.

The interview with the medical director concluded with his strong endorsement of RVS. He feels that it will encourage greater primary care training with redistribution of the economic pie, but he questioned whether or not RVS will influence utilization. Controlling technological development and malpractice suits must be accomplished in concert in order to actually begin to control costs.

Screens. A concurrent care policy was developed at Empire in the early 1980s. After reviewing over 250 concurrent consecutive claims, the medical director found that almost all were medically necessary. The concurrent care policy allows for specific mixes of generalists and specialists, and the need for documentation if more extensive care is given. It is the impression that the policy is working. The problems of concurrent care are difficult to resolve because of the opposite poles involved--from extremely complicated multi-diagnoses, to patients who are being kept in the hospital for no apparent reason.

Screens are felt to be grossly cost effective, with good specificity. To create a foolproof system, the medical director feels that it would be necessary to get rid of fee-for-service medicine, essentially to have DRGs for physicians, or capitation.

Our questionnaire on optional screens posed a problem for all carriers. We asked for information on the top 10 optional screens as measured by dollar volume of claims screened rather than by savings. It turned out that many of the screens that were reported were the top 10 optional screens by savings. Although not in the top 10 optional screens by volume, they were in the top 30. This did give the carrier the opportunity to show that cost avoidance is an important factor in the total screening process, in that the high dollar volume screens do not necessarily save dollars but are there to avoid spending dollars that should not be spent.

Optional screens are developed from patterns of use observed in claims review, from postpayment review, or through utilization review. Even screens that appear to no longer be effective are kept in place because of the possibility that with disuse problems might reappear. The continuation of a screen does affect billing and practice style. Some physicians change permanently, others refuse to change, and still others modify behavior for a period of time and then revert to old practices.

Non-invasive diagnostic testing is a very fertile field. There are no grounds to turn down claims when a physician says these are the methods to make a diagnosis with the least index of doubt. Without long term efficacy studies, Empire believes that it will not be possible to cut down reimbursement for diagnostic tests. For example the government is concerned about the payment of MRIs when CAT scans will suffice. Yet, when an agency of the government comes out with a report stating that MRIs are better than CAT scans, it is not possible to turn down payment for MRIs.

Postpayment Review. In the past four years, the change in forms in postpayment review has increased postpayment review activity dramatically. Candidates are identified for review through a very aggressive fraud and abuse program. Cost avoidance savings are not reportable but must be considered as a positive factor in evaluating postpayment review. The potential for fraud and abuse is significant in this constituency and may account for substantial expenses where savings cannot be shown.

Empire is very active in working with OIG. The carrier feels that its physical proximity is an advantage at times, but can also be very time consuming.

Empire's success in postpayment review is attributable to its proactive pursuit of problems. The staff read the newspaper looking for stories about allegedly flagrant abusers. They work closely with the technical people to contain problems. The staff is positively supported by the organization's upper management. It is felt that the cost-benefit ratio does not accurately reflect the success of the program.

Summary. Empire Blue Cross Blue Shield's approach to its Medicare Part B responsibilities strongly reflects its New York City location. Fraud and abuse as an issue is exacerbated by the exaggerated use of lawyers by the physicians who are under review. The Medical director also plays an important role in the postpayment process.

4. ANALYSIS OF THE EFFECTIVENESS OF THE MANDATED SCREENS

4.1 Technical Approach

The purpose of this section is to explain how the effectiveness of mandated screens was estimated. The first sub-section describes the theoretical arguments that underly the empirical calculation of the gross effectiveness measure. The second sub-section describes how the actual calculations were done.

The information used to calculate effectiveness comes from three sources: (1) our carrier survey, (2) the carriers' quarterly reports to HCFA, and (3) BMAD data. Our calculations, on a number of occasions, were constrained by the availability of the data.

4.1.1 Theory of Screen Effectiveness

We define screen effectiveness with the following monetary measure: effectiveness equals the dollar volume of "bad" (i.e., medically unnecessary) claims that would have occurred in any given period if the mandated screen did not exist minus the dollar volume of bad claims in that same period after the imposition of the screen. In other words, we view an effective screen as one that deters bad claims.

Our concept of effectiveness is a measure of the ability of screens to alter the behavior of physicians and suppliers. It does not measure the performance of the carriers in identifying medically unnecessary claims. Indeed, measures of these two concepts may be diametrically opposed. That is, if screens were deterring bad claims, we would expect that the dollar volume of bad claims would decrease over time. If carriers were performing better by capturing more of the medically unnecessary claims, we would expect that the dollar volume of bad claims would increase over time. In this analysis, we assume that, since most carriers have had substantial experience screening claims before the mandated screens were imposed, the firms' performance had reached a steady state and that bad claim identification was neither appreciably improving or worsening. Therefore, any observed change in the number of medically unnecessary claims can be attributed to the imposition of a screen in changing physician and supplier behavior.

To illustrate the difference between deterrence and catching bad claims, suppose that the screen causes physicians to be very careful whenever they perform a service beyond the screening threshold. These claims will be reviewed but the carrier will catch no unnecessary services in its screening net. Nevertheless, the screen is very effective because it deters many unnecessary services that otherwise would be performed.

To implement this definition of effectiveness, however, it is necessary to have information on bad claims during the period before the screen was used. Such information would have required that carriers review claims in the period before the screen was actually imposed and that they determine the volume of medically unnecessary claims that would have been denied if the screen existed in this period. This information was, understandably, not available from the quarterly reports.

As a proxy, we used the initital quarter of the screening program as a stand-in for the period before screening. Theoretically, this period is shorter than that required for physicians to change their practice patterns in response to the screening program. Thus, the first three months of the screening program will capture the tailend of the pre-screening period. The use of the first quarter of the screening period as a proxy for the last quarter of the true pre-screening period is likely to result in effectiveness estimates that understate the true effectiveness of the screens.

Some carriers had implemented the screens before they were mandated. For these carriers, the initial quarter of the mandated period is less likely to capture the behavior in the tailend of the pre-screening period. This is also likely to lead to understated estimates of effectiveness. In our analysis, we attempted to account for those carriers that used the screen before it was mandated by calculating separate effectiveness estimates for that subset of carriers who implemented the screen only when it was officially mandated. These estimates can then be compared to the effectiveness estimates using the entire population of carriers to determine whether the population estimates are biased.

Using the definition of conditional probability, we can write an equation for the probability of a bad claim during the "pre-screening" period:

$$P_0(B) = P_0(B|S)*P_0(S) + P_0(B|\text{not } S)*P_0(\text{not } S),$$

where P(B) stands for the unconditional probability of a bad claim, P(B|S) is the conditional probability of finding a bad claim among the claims that are flagged for medical review by the screen, P(B|not S) is the conditional probability of a bad claim among the claims that are not flagged for medical review by the screen, P(S) is the probability of a claim being flagged for medical review by the screen, and P(not S) is the probability of a claim not being flagged for review. The subscript "0" stands for the prescreening period.

The probability of finding a bad claim among the claims flagged for medical review, P(B|S), is taken from the quarterly reports, and is equal to the dollar volume of denied or reduced claims (net of denials and reductions overturned on appeal) divided by the dollar volume of claims that are flagged for review by the screen.

The probability of a claim being flagged for medical review, P(S), can be constructed from the quarterly reports and the BMAD data files. It is equal to the dollar volume of the claims flagged for review (from the quarterly reports) divided by the dollar volume of claims submitted in the relevant HCPCS codes (from BMAD). Since BMAD is available only on an annual basis for 1985, 1986 and 1987, we used 25 percent of the annual rates as an estimate of the total volume for one quarter in those years.

Because it is likely that the total volume of claims was growing over the year, 25 percent of the annual volume was likely to overestimate the volume during the first quarter but underestimate the volume during the fourth quarter. To control for this growth, effectiveness estimates were also calculated using the same quarter in the post-screening period as was used in the pre-screening period. This effectiveness calculation was used as an alternative to the effectiveness calculation using the quarter for the post-screening period that is as distant from the initial quarter as the data would permit.

The probability of a claim not being flagged for medical review, P(not S), is equal to 1 (unity) minus the probability that the claim is flagged of review, i.e., to 1-P(S). As a result, any factor that understates the probability of a claim being flagged for review necessarily overstates the probability of a claim not being flagged for review, and vice versa.

The "missing link" in our equation is the probability of a claim not reviewed being bad, P(B|not S). In other words, some services that do not exceed the screening trigger levels will be medically unnecessary. There is no sure-fire way to determine this probability, short of very expensive medical review of randomly-selected claims. Even this would require judgement on the part of the reviewers. Therefore, we adopted an alternative simulation approach. We made seven assumptions regarding the probability of these claims. These assumptions represent a range of possible outcomes and, therefore, provide a sensitivity analysis of our results. The assumptions are:

1. There are no bad unscreened (i.e., unreviewed) claims. Calculations based on this assumption are labeled "B1" calculations. This assumption provides the upper limit on a screen's effectiveness.

2. The percent of bad unscreened claims is equal to the percent of bad screened claims (B2 calculations). This assumption implies that the screening parameters are no better than a simple random draw in selecting claims to be screened. Therefore, in most cases it will set the lower limit on a screen's effectiveness.

3. The percent of bad unscreened claims is equal to the average value indicated by carriers responding to this question on the carrier survey (B3 calcuation).

4. The percent of bad unscreened claims is 1/2 of the percent of bad screened claims (B4 calculation).

5. Ten percent of the unscreened claims are bad (B5 calculation).

6. Five percent of the unscreened claims are bad (B6 calculation).

7. One percent of the unscreened claims are bad (B7 calculation).

For each assumption, separate effectiveness estimates were calculated.

The probability of a bad claim occuring following the introduction of mandated screens is defined as:

$$P_1(B) = P_1(B|S)*P_1(S) + P_1(B|\text{not } S)*P_1(\text{not } S),$$

where the subscript "1" stands for the post-screening period. As before, the probability of a non-reviewed claim being bad is unknown. For all but calculations B2 and B4 above, we assume that this probability does not change over time. In other words, physicians are assumed to maintain the old mixture of necessary and unnecessary services among their non-reviewed claims.

The effectiveness of screening bad claims is calculated by finding the change in probability of a bad claim between the pre- and post-screening period, and multiplying this change times the total dollar volume of claims in the post-screen period. That is,

$$\begin{aligned}\text{effectiveness} &= [P_0(B) - P_1(B)]*(\text{total post-screen period claims})\\ &= \{[P_0(B|S)*P_0(S) + P_0(B|\text{not } S)*P_0(\text{not } S)] -\\ &\quad [P_1(B|S)*P_1(S) + P_1(B|\text{not } S)*P_1(\text{not } S)]\}*\\ &\quad (\text{total post-screen period claims}).\end{aligned}$$

4.1.2. Calculating Screen Effectiveness

Since January, 1985, carriers have submitted quarterly reports of their pre- and post-payment review activities to HCFA. Such reports contain the following information on the 13 mandated and the top 30 voluntary pre-payment screens: number and dollar value of claims flagged for review; number and value of claims denied and reduced; and number and value of denials/reductions reversed on appeal. In addition, a small amount of post-payment review activity is reported: number and value of post-payment reviews pending and complete; overpayments and recoveries; and referrals to the Inspector General's office.

Of the 13 mandated screens, the first 5 were mandated to begin in October 1984 but effectively were not in place until the first quarter of calender year 1985 (see Table 2.1). The last 8 were mandated to begin with the first quarter of calender year 1986. Unfortunately, the quarterly reports for the first quarter of 1985 had been destroyed before this study was commissioned. Therefore, we were not able to estimate the accurate "pre-screening" probabilities for the first five screens. We did, however, receive from HCFA quarterly reports for the last quarter of 1985, and all the reports from 1986 and 1987. This enabled us to calculate pre-screening probabilities for the 8 later screens.

The post-screening probabilities were calculated for two different quarters and can therefore be used to calculate effectiveness scores for two different intervals of the pre- and post-screening periods. The first was calculated using the fourth quarter of 1987. This estimate represents the longest interval between the pre- and post-screening periods permitted by the data.

As mentioned above, the problem with using this interval is that the denominator of $P_1(S)$--representing 25 percent of the total dollar volume of claims this during the year--is inconsistent with the pre-screening demonimator of $P_0(S)$. This is because, with growing claims, the pre-screening denominator is likely to overstate the true volume of claims in the first quarter of the year and the post-screening denominator is likely to understate the true volume of claims in the last quarter. If this bias exists, the weight given to the probability of a medically unnecessary claim among the reviewed claims may be too low in the pre-screening period and too high in the post-screening period.

This bias could result in inaccurate effectiveness estimates. For example, if the probability of a bad claim among the non-screened claims stays constant across the two periods and is less than the probability of a bad claim among the screened claims in either period, and if the probabilty of a bad claim among the screened claims drops over the interval, then the screen is likely to appear to be less effective than it actually is.

Because of this problem, we calculate an alternative effectiveness measure, using the the first quarter of 1987 to define the post-screening period. This enables us to avoid the growth problem described above. Because the interval is smaller, however, there might be less learning and therefore less deterrence demonstrated. Nevertheless, it may still be the case that this interval is sufficient to show the majority of the effect given the likelihood that most physician and supplier learning occurs initially and that diminishing returns occur over time.

We have also estimated average effectiveness scores for each of the 8 mandated screens excluding those carriers that implemented the screen before the first quarter of 1986. As is clear from Table 2.1, the number of excluded firms varies from screen to screen, but in all cases the excluded carriers make up the majority of the carriers. Therefore, we have relatively little confidence that these effectiveness scores are representative of the experience of the entire carrier population.

Finally, we considered calculating a cost-effectiveness score by subtracting the additional cost of a mandated screen for the appropriate time period from the gross effectiveness measure. As will be shown, however, the unreliable nature of the cost estimates discouraged us from taking the numbers literally and calculating cost-effectiveness estimates. How the cost of an additional mandated screen was calculated is described in Appendix D.

4.2. Findings.

Data for this analysis were taken from the carrier surveys, quarterly reports and BMAD data files. As might be expected, some problems are bound to occur when data from several sources are combined over a multi-year time period. These problems have been referred to above, but will be summarized again here.

First, the quarterly reports from the first three quarters of 1985 were missing--HCFA no longer had the hard copies nor had they retained computer records. Additionally, the first two quarters from calendar year 1988 were not yet available. Thus the study was limited to reports from the last quarter of 1985, and all of 1986 and 1987.

Second, a problem arose in defining the "base period" or pre-screening period for measuring benefits. In theory, the base period should be the period immediately before the screen was implemented. As a proxy, however, we wanted to use the first quarter in which the screen was implemented. This latter period differs both by screen (see Table 2.1) and by carrier, since some carriers implemented the screens on an optional basis before they were mandated. In practice, the most common implementation date was the first calender quarter of 1986. In order to simplify the analysis, we used this as the base period for all calculations. A separate calculation was made using only those carriers that introduced the screen on or after 1/86. These results may be more reliable but they are based on a smaller sample size.

Finally, we had several choices for the post-screening period. Again, we decided to use multiple approaches. One of these was to use the first quarter of 1987 as the post-screening period. The second post-screening calculation was based on the last quarter of 1987. By comparing the results from these two approaches, we may be able to show how the probability of a bad claim changes after a screen has been in effect for several years.

4.2.1. Assumptions Regarding Uncreened Claims

As discussed above, the "missing link" in the benefits equation is the probability of a bad claim among the non-screened claims. We made seven different assumptions regarding this probability. Each of these assumptions modified the effectivness measure. The following list contains each of the assumptions and the resulting effectiveness measure when the assumption is adopted:

B1: There are no bad unscreened claims.

$$\text{effectiveness} = [P_0(B|S)*P_0(S) - P_1(B|S)*P_1(S)]*$$

$$\text{(total post-screen period claims).}$$

B2: The percent of bad unscreened claims is equal to the percent of bad screened claims.

$$\begin{aligned}\text{effectiveness} = {} & [P_0(B|S) - P_1(B|S)]* \\ & (\text{total post-screen period claims}).\end{aligned}$$

B3: The percent of bad unscreened claims is equal to the average value indicated by carriers responding to this question on the carrier survey.

$$\begin{aligned}\text{effectiveness} = {} & \{[P_0(B|S)*P_0(S) + P_0(B|\text{not } S)*P_0(\text{not } S)] - \\ & [P_1(B|S)*P_1(S) + P_1(B|\text{not } S)*P_1(\text{not } S)]\}* \\ & (\text{total post-screen period claims}).\end{aligned}$$

B4: The percent of bad unscreened claims is 1/2 of the percent of bad screened claims.

$$\begin{aligned}\text{effectiveness} = {} & \{[P_0(B|S)*P_0(S) + (.5)P_0(B|S)*P_0(\text{not } S)] - \\ & [P_1(B|S)*P_1(S) + (.5)P_1(B|S)*P_1(\text{not } S)]\}* \\ & (\text{total post-screen period claims}).\end{aligned}$$

B5: 10 percent of the unscreened claims are bad.

$$\begin{aligned}\text{effectiveness} = {} & \{[P_0(B|S)*P_0(S) + (.1)*P_0(\text{not } S)] - \\ & [P_1(B|S)*P_1(S) + (.1)*P_1(\text{not } S)]\}* \\ & (\text{total post-screen period claims}).\end{aligned}$$

B6: 5 percent of the unscreened claims are bad.

$$\begin{aligned}\text{effectiveness} = {} & \{[P_0(B|S)*P_0(S) + (.05)*P_0(\text{not } S)] - \\ & [P_1(B|S)*P_1(S) + (.05)*P_1(\text{not } S)]\}* \\ & (\text{total post-screen period claims}).\end{aligned}$$

B7: 1 percent of the unscreened claims are bad.

$$\begin{aligned}\text{effectiveness} = {} & \{[P_0(B|S)*P_0(S) + (.01)*P_0(\text{not } S)] - \\ & [P_1(B|S)*P_1(S) + (.01)*P_1(\text{not } S)]\}* \\ & (\text{total post-screen period claims}).\end{aligned}$$

Without strong prior theory, we cannot say which of these calculations provides the "gold standard" for measuring benefits. We can suggest, however, that readers should compare (1) versus (2) to get an idea of the possible spread in the benefits. Very likely, calculation (3) will lie somewhere inside this range. Since (3) is also based on the carriers' expert opinions, we suggest that it may be the most reliable estimate. Calculations (4) through (7) provide a number of sensitivity tests for the benefits calculation.

Because we tend to rely on calculation (3), it is important to know what percent of unscreened claims are judged by the carriers to be bad, and how many carriers responded to this question. Table 4.1 shows this information.

Most of the results in Table 4.1 are based on the opinions of 20 carriers. Several general features stand out in this table. First, the mean percent of bad unscreened claims tends to cluster in the 5-10 percent range. However, certain services stand out in terms of the percent of bad unscreened claims. Typically, these are services where physicians render "visits" to patients. Carriers believe that serious upcoding problems affect new patient office visits and comprehensive office visits. Chiropractic visits are also viewed as suspect, confirming the carriers' opinions that these services are often of questionable medical necessity.

A second interesting feature of this table is the wide range of carriers' opinions. The low end of the range is always zero, while the high end is often 50 percent or more and reaches 79 percent for new patient office visits.

Table 4.1

Carriers' Estimates of the Percent of Bad Unscreened Claims

Screen	Number of Carriers Responding	Mean Percent of Bad Unscreened Claims	Range of Bad Unscreened Claims
Routine foot care	20	4.9%	0.0 - 30.0%
Mycotic Nails	20	8.4	0.0 - 50.0
Nursing home visits	20	16.65	0.0 - 65.0
New patient office visits	21	15.25	0.0 - 79.0
Holter and real-time monitoring	20	6.7	0.0 - 50.0
Chiropractic	20	11.05	0.0 - 50.0
Hospital visits	20	7.0	0.0 - 30.0
Comprehensive office visits	20	16.15	0.0 - 54.0
SNF visits	20	8.85	0.0 - 40.0
Injections	20	8.25	0.0 - 50.0
Urological supplies	20	7.75	0.0 - 40.0
Replacement of external post-cataract prosthetic contact lens	20	7.65	0.0 - 25.0

4.2.2. Effectiveness Findings

Results of the effectiveness analysis are presented in 48 tables appearing in Appendix C. Each table shows one type of screen and the different effectiveness scores for each firm, given each of 7 different assumptions about the probability of a bad claim among the unscreened claims. (Only 12 screens were analyzed, since the thirteenth--concurrent care--was not included in the BMAD data.) For each screen, there are four tables. Each table corresponds to one of the cells in an imaginary 2 by 2 array, where the columns are distinguished according to whether the time interval is 1/86 vs 1/87 or 1/86 vs 4/87. The rows are distinguished according to whether the table includes only carriers which introduced the screen in 1/86 (or after), or all carriers. For example, in the first table is entitled "Effectiveness of Routine Foot Care Screen for Carriers Who Implemented the Screen in 1/86 or After, Comparison Years: 1/86 vs 1/87."

The first entry in the first column of this table is the effectiveness score for Colorado under assumption B1, which holds that there were no bad unscreened claims. Colorado's score, $940, was calculated by first taking the proportion of bad claims among the screened claims times the proportion of claims that were screened, both from the first quarter of 1986. From this is subtracted a similar calculation (the proportion of bad claims among the screened claims times the proportion of claims that were screened) from the first quarter of 1987. This difference represents the change in probability that there will be a bad claim among the screened claims. (Note that with other assumptions for the proportion of bad unscreened claims, i.e., assumptions B2 through B7, the calculations will be different.) If this difference is positive, it indicates that there are proportionately fewer bad claims among the screened claims in the second period than in the first, suggesting that physicians and suppliers are changing their behavior for the better and that the screen is therefore effective.

Using assumption B3, the providers' average estimate of the proportion of bad unscreened claims, we can determine the percentage of carriers that show evidence of deterring bad claims by determining the percentage of carriers with positive differences for each screen. Table 4.2 shows these percentages for the four different types of tables described above and reported in Appendix C. The total number of carriers on which this percentage is based is included in parentheses under the percentage entry.

The evidence from table 4.2 does not appear to present a very strong case that the screens deter physicians and carriers from submitting bad claims. Only routine foot care, mycotic nails, and holter and real-time monitoring showed evidence of deterring behavior in 50% or more of the carriers. Perhaps, the carriers' increasing expertise in catching a greater percentage of the bad claims over time is confounding the ability to show a deterrence effect.

Table 4.2

Percentage of Carriers Showing Evidence of Deterrence under Assumption B3

Screen	1/86 Introduction, 1/86 to 1/87	1/86 Introduction, 1/86 to 4/87	All carriers 1/86 to 1/87	All carriers 1/86 to 4/87
Routine foot care	75% (n=4)	80% (n=5)	56% (n=18)	52% (n=27)
Mycotic nails	50% (n=4)	80% (n=5)	53% (n=30)	59% (n=34)
Nursing home visits	40% (n=5)	50% (n=4)	47% (n=34)	47% (n=36)
New patient office visits	20% (n=5)	29% (n=7)	48% (n=27)	37% (n=35)
Holter and real-time monitor	50% (n=4)	67% (n=6)	53% (n=34)	50% (n=34)
Chiropractic	11% (n=9)	40% (n=10)	39% (n=38)	47% (n=38)
Hospital visits	29% (n=7)	50% (n=10)	46% (n=37)	58% (n=40)
Comprehensive office visits	56% (n=9)	50% (n=10)	44% (n=34)	45% (n=40)
SNF visits	50% (n=6)	50% (n=6)	48% (n=33)	44% (n=36)
Injections	80% (n=5)	33% (n=6)	31% (n=26)	31% (n=29)
Urological supplies	33% (n=12)	60% (n=15)	45% (n=31)	53% (n=34)
Replacement of post-cataract contact lens	13% (n=8)	44% (n=9)	27% (n=33)	68% (n=28)

To find the total value of the claims deterred, the difference between the probability of a bad claim in the "pre-screen" period and the probability of a bad claim in the post-screen period is then multiplied times the total dollar volume of claims in the post-screen period. This is done for each carrier and for each screen. In the example above, Colorado's score suggests that the presence of a routine foot care screen was able to deter physicians and suppliers served by this carrier from submitting $940 of medically unnecessary routine foot care claims--claims that would have been submitted without the screen.

This score indicates the dollar volume of bad claims that were deterred by the screen for a specific carrier. To get an estimate of the total value of claims deterred for all carriers, the effectiveness scores in each of the columns are summed. This sum represents the value of all medically unnecessary claims deterred over time net of the value of all medically unnecessary claims that were, for some unknown reason, increasing over time.

The sums recorded at the bottom of the page of each table in Appendix C are distinguished according to the different assumptions, B1 through B7. One way to summarize the effectiveness scores is to count the number of "B" assumptions where the summed efficiency score for all firms is positive. These numbers are presented in table 4.3.

In the first column of table 4.3, the carriers' ranking of the screens in terms of effectiveness is reported. This summarizes the information in table 2.2. The next four columns show the number of times, out of the 7 possible assumptions regarding the probability of a bad claim among the unscreened claims, that the sum of the effectiveness scores for all carriers is positive. The number of carriers on which these results are based is again included in parentheses under this number.

According to table 4.3, four screens show consistent positive net effectiveness scores: routine foot care, nursing home visits, chiropractic, hospital visits and replacement of post-cataract contact lens. This is based on whether the screens showed positive net scores in 4 or more of the "B" assumptions for all four groups of carriers. Some screens--holter and real-time monitoring, comprehensive office visits, SNF visits, and injections--showed evidence of effectiveness for the groups of carriers introducing the screen in 1/86, but not necessarily for all carriers. Some screens--mycotic nails, new patient office visits, and urological supplies--did not appear on average to be effective for either group of carriers, or for either time interval.

These scores were generally inconsistent with the carriers' rankings as derived from table 2.2. For example, the screen ranked first in terms of effectiveness by the carriers--new patient office visits--showed the least evidence that a net deterrence effect had occurred. The screen ranked least effective by the carriers--injections--showed a consistent deterrence effect accross all 7 "B" assumptions for that group of carriers that implemented the screen in 1/86 or after. Clearly, some screens showed carrier rankings more consistent with the empirical evidence.

Table 4.3

The Number of "B" Assumptions for Which the Sum of the Effectiveness Score for Carriers in Positive

Screen	Carriers' Opinion	1/86 Introduction, 1/86 to 1/87	1/86 Introduction, 1/86 to 4/87	All carriers 1/86 to 1/87	All carriers 1/86 to 4/87
Routine foot care	11th	6+ (n=4)	7+ (n=5)	6+ (n=18)	7+ (n=27)
Mycotic nails	6th	0+ (n=4)	2+ (n=5)	0+ (n=30)	2+ (n=34)
Nursing home visits	2rd	5+ (n=5)	7+ (n=4)	7+ (n=34)	5+ (n=36)
New patient office visits	1st	0+ (n=5)	0+ (n=7)	2+ (n=27)	2+ (n=35)
Holter and real-time monitor	4th	6+ (n=4)	7+ (n=6)	0+ (n=34)	4+ (n=34)
Chiropractic	4th	5+ (n=9)	6+ (n=10)	7+ (n=38)	7+ (n=38)
Hospital visits	8th	4+ (n=7)	4+ (n=10)	4+ (n=37)	5+ (n=40)
Comprehensive office visits	2nd	6+ (n=9)	5+ (n=10)	7+ (n=34)	2+ (n=40)
SNF visits	6th	7+ (n=6)	7+ (n=6)	3+ (n=33)	2+ (n=36)
Injections	12th	7+ (n=5)	7+ (n=6)	0+ (n=26)	3+ (n=29)
Urological supplies	9th	0+ (n=12)	0+ (n=15)	0+ (n=31)	5+ (n=34)
Replacement of post-cataract contact lens	10th	6+ (n=8)	6+ (n=9)	7+ (n=33)	7+ (n=28)

As mentioned, the analysis was constrained by the availability and the nature of the data. Therefore, we wanted to define the case with the best data to be used as our best estimate of the true effectiveness of the screen. Our most reliable screens were those mandated January, 1986: chiropractic, hospital visits, comprehensive office visits, SNF nursing home visits, injections, urological supplies, and replacement of post-cataract contact lens. (Although the screen for concurrent care met this criterion, it was excluded because the BMAD data for this screen did not exist.) The measurements for these screens were most reliable because we possessed data for the quarter in which they were mandated. For the other five screens, the best data we had for a "pre-screening" period was three quarters after they were implemented.

Some carriers had implemented the screen before January, 1986. In calculating the effectiveness scores, the more reliable data came from those firms that did not implement the screen until it was required. Again, this is because the data we have for these carriers more closely approximates the pre-screening period.

Also, because of the problem of increasing claims volume over the calender year, the most reliable representation of the effectiveness compares data from first quarter of 1986 and the first quarter of 1987 to establish effectiveness. Of the two intervals considered, however, this one is less likely to show a screen to be cost-effective because it represents the shorter interval.

Finally, we made seven assumptions about the likelihood of a bad claim among the claims that were not screened for medical review. Our best guess at that likelihood was provided by the opinions of the administrators from the survey. Thus, our overall impressions of effectiveness are based on their opinions, on average.

For this case, the preponderance of evidence seems to suggest that the screens are effective, on average. There were only seven screens that were implemented in January, 1986 or after. Four of these seven screens--chiropractic, SNF visits, injections, and cataract contact lens--appear to be effective.

Of the five screens implemented before January, 1986, three--routine foot care, nursing home visits, and holter monitoring--also appear to be effective.

Using the longer time interval (i.e., between the first quarter of 1986 and the last quarter of 1987) in the effectiveness calculations essentially does not alter these results.

Using the entire sample of carriers and all 12 screens, but using the shorter interval and retaining the assumption regarding the probability of a bad claim among the non-screened claims, we find only five--routine foot care, nursing home visits, chiropractor, comprehensive office visits, and post-cataract contact lens--to be effective. Using the longer time interval, seven screens are now effective: the above five plus hospital visits and urological supplies.

Overall, therefore, we have only weak empirical evidence that the screens are effective. There are at least three possible explanations for this lack of empirical support. First, the data may be too limited to show evidence of a deterrence effect. One problem is that we do not have true "pre-screening" information on the prevalence of medically unnecessary claims. Perhaps even more important, we can only guess at the percentage of unscreened claims that are medically unnecessary. Both factors could cause our effectiveness estimates to be understated.

Second, the screens may not have sufficiently deterred physicians and supplier from submitting unnecessary claims. Clearly, any deterrence effect will increase as the penalties for submitting medically unnecessary claims increase. The most common penalty for submitting a bad claim is the inconvenience associated with its rejection and return. There might also be some inconvenience associated with the carriers' attempts to educate physicians and suppliers, but it is not clear whether these penalties are sufficient to change their behavior. Only in a few egregious cases are more significant sanctions imposed. Therefore, it is possible that these results may reflect the small amount of deterrence actually generated by the screens.

Third, it is not clear that all things have been held constant in going from the "pre-screening" period to the post-screening period. This study develops a gross measure to determine whether there is any evidence that medically unnecessary claims are decreasing over time. In order to attribute any decrease to the imposition of screens, it is necessary to hold constant any other changes that might be occurring over this period. Perhaps, the most important change to hold constant is any increase in the total dollar volume of all claims--necessary and unnecessary--over time. Clearly, if the total volume of all claims is increasing, it is likely that the total volume of unnecessary claim is increasing too. To control for this factor, we have used the proportion of medically necessary claims (the rate at which unnecessary claims are being submitted) rather than the simple dollar volume of unnecessary claims.

Even so, there are other things that may be changing that could confound our ability to show deterrence. One such potentially confounding factor is an increase in the carriers' ability or skill in identifying bad claims. If carrier performance in this regard is improving over time, then the proportion of bad claims caught will be increasing over time, leading to empirical results that show evidence of little deterrence. Finding carrier variables that would permit the holding of this factor constant, however, would be difficult. Thus, like most scientific studies of its kind, this study may have raised more questions than it has answered.

Our best guess from all the information gathered is that, for most carriers, most screens are likely to be somewhat effective in promoting desirable physician treatment or billing behavior, at least when the screens are initially imposed. This effectiveness, however, could not be conclusively demonstrated by the empirical portion of this study.

APPENDIX A: SURVEY OF CARRIER VOLUME AND INTENSITY CONTROLS FOR PART B MEDICARE

Appendix A: Survey of Carrier Volume and Intensity Controls for Part B of Medicare

SEP 12 1988

NOTE TO: All Part B Carriers

SUBJECT: Congressionally Mandated Study on the Effectiveness of Medical Review—ACTION

Section 4056(c)(2) of the Omnibus Budget Reconciliation Act (OBRA) of 1987 requires the Secretary to study a number of issues related to volume and intensity of physicians' services. One issue of particular relevance to both you and us is an analysis of the effectiveness of methods currently used in Medicare to ensure that payments are made only for medically necessary services.

We have decided to utilize the services of a research center that currently has a cooperative agreement with HCFA to assist us in the required study. The center, a part of the school of Public Health at the University of Minnesota is also conducting the remaining studies relating to volume and intensity required under 4056(c)(2), for the Office of Research and Demonstrations.

The atttached survey has been prepared by research center staff. I urge your cooperation in completing the survey.

The current project plan calls for several site visits by Minnesota staff. We will be discussing potential sites with the regional offices. If a visit is proposed to your organization, we will provide specific information on what will need to be accomplished as far in advance of the visit as possible.

I appreciate your cooperation in working with us to ensure that the University of Minnesota staff can successfully complete their study in a timely manner.

C J Walton
Carol J. Walton
Director
Office of Program Operations Procedures

Attachment

cc:
Associate Regional Administrators
for Program Operations
Regions I, II, IV-VII, IX-X
Associate Regional Administrators
for Medicare
Regions III, VIII

School of Public Health

UNIVERSITY OF MINNESOTA
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SURVEY OF CARRIER VOLUME AND INTENSITY CONTROLS FOR PART B OF MEDICARE

Please Read This Page First

Public Law 100-203 requires the Secretary of the Department of Health and Human Services to analyze the effectiveness of methods currently used to ensure that Medicare payments are made only for medically necessary physicians' services. To help fulfill this mandate, the Health Care Financing Administration (HCFA) has awarded a cooperative agreement to the University of Minnesota to study methods used by carriers to control the volume and intensity of physicians' services. The University of Minnesota, in cooperation with HCFA staff, has designed this survey. You, and each of the other carriers in the country, have received a copy of the survey.

We would greatly appreciate your help in completing this survey. The questions are detailed and specific; it would be most helpful if you assigned the task of completing the survey to staff that are knowledgeable in Medicare utilization review.

Instead of returning the survey to us right away, we would like you to fill it out and hold it. Colleen Grogan, from the University of Minnesota, will call you in about one week to go over the survey. She will be available to review any problem areas with you and to write down your answers. We believe that this is the most accurate method to obtain the necessary information.

After Colleen has completed her interview, could you please return the survey (or a copy of it, if you wish to keep the original) to:

Roger Feldman, Ph.D.
HCFA Research Center Director
Division of Health Services Research and Policy
University of Minnesota
420 Delaware Street, S.E., Box 729
Minneapolis, MN 55455

Our phone number is 612-624-6151. Please call us if you have any questions. Can we also have the name of a contact person in your organization?

Name: ______________________________ Phone: ____________________

HEALTH SCIENCES

SURVEY OF CARRIER VOLUME AND INTENSITY CONTROLS FOR PART B OF MEDICARE

The purpose of this survey is to collect information on the Medical Review (MR) activities of Medicare Part B Carriers. Medical Review consists of pre- and postpayment review to identify inappropriate, medically unnecessary, or excessive services.

PART I: PREPAYMENT SCREENS

A. HCFA Mandated Prepayment Screens and Parameters

1. We would like to know when you implemented each of the 13 mandated screens, and whether you use tighter screening parameters than those mandated by HCFA.

SCREEN	DATE IMPLEMENTED (mo/year)	MANDATED PARAMETER	YOUR PARAMETER (if tighter)
Routine foot care		1 treatment per 60 days	
Mycotic nails		1 treatment per 60 days	
Nursing home visits		1 visit per month	
New patient office visits		1 comprehensive physical exam per carrier history period	
Holter and real-time monitoring		1 instance per 6 months	
Chiropractic		12 spinal manipulations per year	
Concurrent care		1 doctor of same specialty billing for in-hospital services on same day	
Hospital visits		31 times in 3 months	
Comprehensive office visits		1 per six months	

SCREEN	DATE IMPLEMENTED (mo/year)	MANDATED PARAMETER	YOUR PARAMETER
SNF visits	______	2 subsequent care visits in 1st week, 1 visit per week thereafter	______ ______
Injections	______	24 per year	______
Urological supplies	______	2 catheters per month	______
Replacement of post-cataract external prosthetic contact lenses	______	1 per eye per year	______

2. What is the skill level of the person who normally performs medical review for mandated screens? (check one)

Claims examiner with limited medical training ...... ____

Nurse .... ____

Physician .... ____

Other .... ____

If other, please identify: ______________________

2a. What factors determine the skill level needed for a particular type of review?

____

____

2b. What was the impact of your budget in determining the skill level needed to conduct medical review?

____

____

3. What is the estimated cost of mandated prepayment review activities in each of the three most recent fiscal years?

FY from ________ to ________ $ __________

FY from ________ to ________ $ __________

FY from ________ to ________ $ __________

3a. Do you keep more-detailed records of the cost of mandated prepayment review, e.g., by 3-month period or by type of service reviewed? (check one)

Yes .... _____

No .... _____

If yes, please explain: ________________________________

____

4. Can you describe any problems encountered in implementing the mandated prepayment screens (e.g., with providers)?

____

____

____

5. We are interested in your assessment of the non-quantifiable cost-avoidance effects of mandated prepayment screens. Could you answer the following questions, even if you have to estimate the answers: What percentage of the unscreened claims for each of the following screens are medically unnecessary (MU)? Did simple presence of the screen cause the percentage of unscreened claims that are medically unnecessary to increase or decrease?

SCREEN	% UNSCREENED CLAIMS "MU"	EFFECT OF SCREEN (CHECK ONE):			
		INCREASE	DECREASE	NO CHANGE	DON'T KNOW
Routine foot care	_____ %	_____	_____	_____	_____
Mycotic nails	_____ %	_____	_____	_____	_____
Nursing home visits	_____ %	_____	_____	_____	_____

SCREEN	% UNSCREENED CLAIMS "MU"	EFFECT OF SCREEN (CHECK ONE): INCREASE	DECREASE	NO CHANGE	DON'T KNOW
New pat. office visits	_____ %	_____	_____	_____	_____
Holter monitor	_____ %	_____	_____	_____	_____
Chiropractic	_____ %	_____	_____	_____	_____
Concurrent care	_____ %	_____	_____	_____	_____
Hospital visits	_____ %	_____	_____	_____	_____
Comprehensive office vis.	_____ %	_____	_____	_____	_____
SNF visits	_____ %	_____	_____	_____	_____
Injections	_____ %	_____	_____	_____	_____
Urological supplies	_____ %	_____	_____	_____	_____
Contact lens replacement	_____ %	_____	_____	_____	_____

B. Other Prepayment Screens

1. A medical or surgical procedure must be suspended for manual review when the submitted charge exceeds a predetermined percent of the prevailing charge (250% is suggested). What percent do you use for this screen? .... _____%

2. "Once-in-a-lifetime" procedures must be identified. Please indicate the HCPCS codes of such procedures that you have identified: (if the list is too long, you may attach a copy)

____

____

3. Many carriers have developed optional screens, in addition to those mandated by HCFA. We are interested in the top 10 optional screens that you use, as measured by dollar volume of claims screened. On the following page we ask a series of questions about the most important optional screen. Please make 9 copies of this page if you have 10 optional screens, or make the appropriate number of copies if you have fewer than 10 optional screens. After completing these pages, please continue to the next set of questions.

OPTIONAL PREPAYMENT SCREENS

1. Description of screen: ______________________
   HCPCS code(s): ______________________
   Date implemented: __________
   Screening parameter: ______________________

2. What is the skill level of the person who normally performs the medical review?
   Claims examiner with limited medical training .... ____
   Nurse .... ____
   Physician .... ____
   Other .... ____
   If other, please identify: ______________________

3. Does the screen result in (check one):
   Automatic denial? .... ____
   Manual review? .... ____

4. What is the estimated cost of this screen during the 3 most recent fiscal years?
   FY from ________ to ________ $ ________
   FY from ________ to ________ $ ________
   FY from ________ to ________ $ ________

5. Please describe any problems encountered in implementing this screen (e.g., with providers): ______________________

   ____

6. What percent of unscreened claims are medically unnecessary? ____ %
   What was the effect of this screen on the percent of "MU" unscreened claims? INCREASE___ DECREASE___ NO CHANGE___ DK___

7. For the 3 most recent fiscal years, please indicate:

	MOST RECENT YEAR	2nd YEAR	3rd YEAR
Number of claims screened	________	________	________
$ volume of claims screened	$________	$________	$________
No. services denied/reduced	________	________	________
$ services denied/reduced	$________	$________	$________
No. denials/reductions reversed	________	________	________
$ denials/reductions reversed	________	________	________

.... PLEASE MAKE EXTRA COPIES AS NEEDED ....

C. Relative Effectiveness of Mandated Versus Optional Prepayment Screens

1. We are interested in your assessment of the relative effectiveness of mandated versus optional pre-payment screens. Are there any mandated screens that, in your opinion, are not cost-effective? If so, why not? Please attach additional pages if the following blanks are not adequate:

    1a. First ineffective mandated screen: ______________________

    Reason: ____

    ____

    1b. Second ineffective mandated screen: ____________________

    Reason: ____

    ____

    1c. Third ineffective mandated screen: _____________________

    Reason: ____

    ____

2. Would you recommend adding any of your optional screens to the list of mandated national screens, based on their superior cost-effectiveness? If so, which ones?

    2a. First recommended screen: ____________________________

    2b. Second recommended screen: __________________________

    2c. Third recommended screen: ____________________________

3. Do you think that local variation in medical review policies and guidelines impacts the relative effectiveness of both national and optional screens? Please discuss.

____

____

____

PART II: POSTPAYMENT SCREENS

A. General Questions

1. What is the skill level of the person who normally performs postpayment MR? (check one)

Claims examiner with limited medical training .... ____
Nurse .... ____
Physician .... ____
Other .... ____
If other, please identify: ______________________________

1a. What factors determine the skill level needed for postpayment MR?

____

____

2. Please describe the peer groups used for physician profiling in your postpayment MR system, e.g., peer groups may be defined by specialty, subspecialty, locality, or other methods:

____

____

____

3. After you have identified physician/suppliers who need further investigation, what types of educational activities are done? Please describe these activities and the order you do them:

____

____

____

____

B. Specific Postpayment Pattern-of-Practice Comparisons

Carriers are required to make postpayment pattern-of-practice comparisons by calculating two ratios: Ratio I is the number of services provided by a physician/supplier per 100 beneficiaries. Ratio II is the number of services per each beneficiary who actually received services in that category. Examples are:

Ratio I	Ratio II
Total # of EKGs = 15	Total # of EKGs = 15
Total # of patients seen = 84	Total # of patients receiving EKGs = 7
15 divided by 84 times 100 = 17.8	15 divided by 7 = 2.14
Therefore, 18 EKGs were performed per 100 patients	Therefore, 2 EKGs were performed on each patient who received an EKG

What was the critical value for each ratio that would cause a physician/supplier to be selected for postpayment review?

Category	Ratio I	Ratio II
Office visits	________	________
Home visits	________	________
Hospital visits	________	________
SNF visits	________	________
Nursing home visits	________	________
Injections	________	________
EKGs	________	________
Surgery	________	________
Office lab services	________	________
Office diagnostic x-ray	________	________
Physical therapy	________	________

Other comparisons (e.g., oxygen concentrators, seat lift chairs, or air ambulance:

______________________________	________	________
______________________________	________	________
______________________________	________	________

PART III: OTHER METHODS OF CONTROLLING VOLUME AND INTENSITY

A. In an attempt to control the number and cost of physician services, carriers have implemented changes in their payment structure. Have you tried changing the coding of physician services to prevent physicians from "upcoding" procedures (e.g., have you reduced the number of office visit codes you recognize)?

yes .... ____ (continue)
no .... ____ (skip to B)

1. Could you describe how the coding of physician services was changed?

____

____

____

2. When were the coding changes implemented? ____________________

3. Have you formally evaluated the effectiveness of the coding changes?

yes .... ____ (continue)
no .... ____ (skip to A.9)
don't know .... ____ (skip to A.9)

4. Could you describe this evaluation program? ____________________

____

____

5. What has been the effect of the coding changes on total cost?

increase by ______ %
decrease by ______ %
no change ______
don't know ______

6. What has been the effect of the coding changes on cost of physician services?

increase by ______ %
decrease by ______ %
no change ______
don't know ______

7. What has been the effect of the coding changes on total utilization?

increase by ______ %
decrease by ______ %
no change ______
don't know ______

8. What has been the effect of the coding changes on utilization of physician services?

increase by ______ % (skip to B)
decrease by ______ % (skip to B)
no change ______ (skip to B)
don't know ______ (skip to B)

9. What is your overall feeling toward the effectiveness of the coding changes?

____

____

10. How do you think the coding changes have affected the cost and utilization of physician services?

____

____

B. Do you extensively "bundle" physician services into broader categories (e.g., global fees for surgery)?

yes .... ____ (continue)
no .... ____ (skip to C)

1. Could you describe the bundling program?

____

____

____

2. When was the bundling program implemented? ____________________

3. Have you formally evaluated the effectiveness of the bundling program?

yes .... ____ (continue)
no .... ____ (skip to B.9)
don't know .... ____ (skip to B.9)

4. Could you describe this evaluation program? ____________________

____

____

5. What has been the effect of the bundling program on total cost?

increase by ______ %
decrease by ______ %
no change ______
don't know ______

6. What has been the effect of the bundling program on cost of physician services?

increase by ______ %
decrease by ______ %
no change ______
don't know ______

7. What has been the effect of the bundling program on total utilization?

increase by ______ %
decrease by ______ %
no change ______
don't know ______

8. What has been the effect of the bundling program on utilization of physician services?

increase by ______ % (skip to C)
decrease by ______ % (skip to C)
no change ______ (skip to C)
don't know ______ (skip to C)

9. What is your overall feeling toward the effectiveness of the bundling program?

____

____

10. How do you think the bundling program has affected the cost and utilization of physician services?

____

____

C. Describe other techniques for controlling volume and intensity that you have successfully used under part B of Medicare:

PART IV: SPECIAL SECTION FOR AMBULATORY CARDIAC MONITORING

Prior to September 1987, the CPT-4 codes for certain types of cardiac monitoring did not provide carriers with an adequate basis for accumulating charge data and recognizing price differentials in establishing reasonable charge allowances. In response to these problems, the Director of the Bureau of Eligibility, Reimbursement and Coverage established several temporary alpha-numeric codes for Holter and Real-time monitoring. For each of the cardiac monitoring codes shown below, please tell us your current prevailing charge for participating internists. If you administer payment of Part B claims in more than one geographic area, please provide the prevailing charge for each carrier region.

Codes for Holter Monitoring — Prevailing Charge

Q 0019 Electrocardiographic monitoring for 24 hours by continuous original ECG waveform recording and storage with visual superimposition scanning ____________________

Q 0020 recording only ____________________

Q 0021 scanning analysis with report ____________________

Q 0022 physician review and interpretation ____________________

Q 0023 Monitoring without superimposition scanning utilizing a printout device ____________________

Q 0024 recording only ____________________

Q 0025 microprocessor-based analysis with report ____________________

Q 0026 physician review and interpretation ____________________

Codes for Real-Time Monitoring

Q 0027 Real-time monitoring utilizing a device capable of producing 75 or more waveform tracings ____________________

Q 0028 monitoring and real-time data analysis with report ____________________

Q 0029 physician review and interpretation ____________________

Q 0030 Real-time monitoring utilizing a device capable of producing up to 75 waveform tracings ____________________

Q 0031 monitoring and real-time data analysis with report ____________________

Q 0032 physician review and interpretation ____________________

THIS COMPLETES THE SURVEY. THANK YOU FOR YOUR COOPERATION.

APPENDIX B: DETAILED ANSWERS TO OPEN-ENDED QUESTIONS

Page 3, Question 4: Can you describe any problems encountered in implementing the mandated prepayment screens (e.g., with providers)?

Survey #	Answer
1.	1) Providers complained there was not enough advance notice. 2) Providers complained that they were not consulted in writing guidelines (particularly podiatrists, chiropractors and cardiologists). 3) Providers are poor in training staff when turnover occurs. Providers' staff are poorly trained - high turnover rates - therefore, their staff don't know how to bill for the mandated edits.
2.	Negative provider reactions when instituted, resulting in increased inquiries and contacts. However, recently there have been no complaints.
3.	Yes, would have to increase staff - due to increase in the number of appeals. Mandates are sometimes difficult to explain to irate physicians.
4.	No major problems since we already had same or similar screens prior to their being mandated.
5.	Podiatry, chiropractic, concurrent care and the urologic supplies are the mandated screens which we receive the most complaints about. Physicians generally feel that we should not question what and how frequently they are billing services.
6.	Increase in number of requests for review. More appeals - questioning that decision.
7.	Many providers believed screen was all Medicare would pay. General dislike and disagreement.
8.	Many providers believed screen was all Medicare would pay. General dislike and disagreement.
9.	1) Assistant at Cataract Surgery - as all claims are suspended for medical review, the provider community needed to know what constituted coverage for the assistant to be paid.

2) Holter Monitor - at first the provider community felt that the parameters of this screen were unreasonable.

3) Urological Supplies - Suppliers stated that the parameters were unreasonable.

4) Chiropractic Audit - initially, many of the providers felt that the audit limited the number of services covered (12 per year) and needed to be educated that as long as the medical necessity was documented, additional services would be paid.

10. No more than normal whenever we implement stricter parameters.

11. The concurrent care screen has presented the most difficulties. All physicians consider their services medically necessary but documentation is often lacking.

12. Providers disagreed with the manner with which the 12/year chiropractor screen was implemented. It was implemented by claim submission date. Providers felt the parameter should have been implemented by service date.

13. none

14. The implementation date is usually effective immediately and gives little time to instruct providers on the new screens. Once the provider is notified and edits/audits in place, no major problems are encountered.

15. Encourage them to submit documentation when exceeding the parameter. Understanding this is a parameter and more services may be allowed if determined to be medically necessary.

16. Screens are misunderstood to be coverage criteria - thereby creating confusion throughout the provider community.

17. None. Descriptions of the prepayment screens are published in the Medicare Bulletin before implementation, therefore providers are aware.

18. Physicians resented having to provide additional documentation; they thought screens were absolute rather than a guide.

19. None as long as we inform the providers.

20. Some providers try to circumvent the screen by using different procedure codes (e.g. mycotic nails and comprehensive office visit, established patient).

Additionally, physicians resent any interference or the suggestion by a carrier that a service exceeds an allowed frequency or that his/her services are considered to not be medically necessary. Excessive correspondence and telephone calls are an ongoing problem.

21. There are many problems with the chiropractors. Previously the parameter was 38 manipulations per year, however, the mandate is now only 12 per year. The chiropractors are very organized and they continually ask for further reviews. IMES organization is also very active against DMG restrictions.

22. 1) Lack of HCFA protocalls

2) Short time allowed to make system modifications and information to provider community.

3) Confusion over rolling vs. calendar year processing (12 visits a rolling or calendar year).

4) Provider specialty - chiropractors.

23. Lead time to implement, too short. Not enough time to develop guidelines needed to process suspensions. Guidelines must be obtained from the medical/professional community. This takes some lead time to acquire this level of detail and agreement amongst the various medical disciplines.

24. Providers and beneficiaries don't always agree with guidelines. Don't have control of tests etc. Enforcement and backpayment has been a problem. Instructions from HCFA not clear.

25. In Massachusetts the various medical specialty societies have protested that the screens, especially the length of stay and concurrent care screens, are unfair, as a physician will not always know when his claims will suspend for review.

26. No problems - the provider community in these states accepts the screens.

27. none

28. To our knowledge this type of problem would be handled on a national basis. Only problem is a consensus that doctors don't like government control.

29. Providers must be educated via newsletters and many do not read the newsletters and then can not understand why they are not paid.

30. No problems if we send a newsletter in advance.

31. none

32. Many physicians complained about the halter monitor screen and the 31 day in- hospital care. Many podiatrists complained about the podiatry screens.

33. none

34. This depends on what needs reviewing. Effects needed for notification and complaint handling as a result of implementation can be costly.

35. Acceptance; complaint of governmental meddling in a physician's practice.

36. Despite intense ongoing education, providers resented any screening and/or review of their services. Result is increase in number of appeals.

37. General billing problems. How much billing for incorrect codes. Providers resent new screens - increase in more reviews.

38. NA

39. NA

40. NA

41. Definition of modifier application, i.e. -75 concurrent care.

42. No problems have been identified in implementing the mandated prepayment screens.

43. Though medical review is done, Podiatrists and Chiropractors as a group are reluctant to accept the guidelines.

44. Generated calls, written complaints. etc.

Page 6, Question 2: Would you recommend adding any of your optional screens to the list of mandated national screens, based on their superior cost-effectiveness? If so, which ones?

Survey #	First Recommended Screen
1.	Noncovered Chiroporactic Services
2.	Initial consults more than once
3.	Podiatry use office (90050, 90060, etc.)
4.	More than 2 extended office visits per 6 mos; same provider.
5.	Vascular Studies
6.	Consultation per history - highest $ amount
7.	Suspend 93850 or 93860 if history of 93870 on same day
8.	Possible fragmentation of surgical procedures billed by provider, same date of service, but different ICN's.
9.	Eye exams - review more than one in 3 months
10.	Consultation/Provider/Beneficiary history
11.	No, optional screens are geared to the experience of a particular carrier.
12.	Surgeon/ other pre & post-op care physicians
13.	Consultations
14.	Office calls, limited to 3 a month.
15.	Hospital visit - 90220 Comprehensive
16.	Seat lift chairs - Review all.
17.	More than one initial comprehensive hospital admit in history.
18.	Comprehensive Hospital Admission 8 Yr.
19.	Surgery and days (global fees for surgery)
20.	Provider abuse
21.	Only pay for two 80019s per calendar year

22. Office colonoscopies - 100% review

23. Extended hospital visits per in-patient stay.

24. Multi-surgical procedures

25. Suspend concurrent medical care

26. More than 31 days lH in 2 mos.

27. Office Visits follow-up (90040-90060)

28. Medical care vs. medical care (218) (same day, same physician).

29. Seat lifts (100% review)

30. Non-evasive ultra-sound (100% review).

31. High level NH visits (up-coding)

32. 90260 intermediate hospital visit

33. 90260's - Hospital visits

34. (90630: 1 in 180 days) Extensive and Comprehensive Consults
35. "New Patient" services

36. In hospital vs. in hospital more than one service same day, same physician.

37. Asst surgeries if warrented/ 100% review

38. None - may not work well for anyone else.

39. None

40. None

41. 64443: Inj. anesthetic agent, each add. level.

42. More than one initial consult.

43. Office visits, New Patient Codes - Add 90000-90017

44. Hospital admits 90200-90220

Survey # Second Recommended Screen

1. Fragmenting of Major Surgery Global Fee

2. N/A

3. Prolonged physician visits (critical care visits)

4. More than 1 consultation per 3 months; same provider

5. Laboratory Studies

6. Hospital Admission, 1 per 30 days - large savings

7. Suspend cataract glass frames exceeding 1 per year.

8. Repeat consults by same provider.

9. Electric DME - review all electric DME.

10. 2 SMA's per 365 days.

11. No, optional creens are geared to the experience of a particular carrier.

12. N/A

13. N/A

14. Post-operative cateract surgery

15. Office calls - 90030-90070

16. Office \ Emergency Room visits, more than 4 per month.

17. More than one initial ER visit in 3 months\ same provider.

18. Consultation 2 Mos/5 Qtr / 7 Yr

19. Hospital Visits

20. Hospital visits (30 per confinement)

21. Should only pay 1

22. Office opthalmic B-scans - 100% review

23. Seat lifts

24. PUVA dx and documentation

25. More than 5 physiotherapy visits

26. More than 31 days 1 H in 1 Mo.

27. Hospital Admit-initial (00215-90220)

28.	N/A
29.	Mammograms (100% review)
30.	Cardiac Catherizations (100% review)
31.	Extended Office Visits (Upcoding)
32.	90600-90643 Consultations
33.	90000-90017
34.	Emergency Room visits (90610 to 90620: 2 in 180 days)
35.	Consultations; Initial and follow-up.
36.	New Patient Emergency Room Exams - excess of one per patient/ per facility.
37.	Medical vs. Surgery 2 days prior to surgery & same day.
38.	NONE- may not work well for anyone else.
39.	N/A
40.	N/A
41.	Major surgery within 30 days.
42.	Suspend venipuncture 1/day.
43.	Initial SNF Care 90300-90320.
44.	N/A

Survey #	Third Recommended Screen
1.	Consultations within 2 days of Major Surgery by same doctor.
2.	N/A
3.	N/A
4.	Consultation vs. medical care within 1 month; same provider
5.	Office visits
6.	None
7.	Suspend consult if home or office visit within 30 days

8. Multiple admits for same date of service, different providers

9. N/A

10. Consultation/beneficiary/30 days if not in hospital; 4 consultations/beneficiary/30 days if hospitalized (2 allowed per specialty)

11. No, optional screens are geared to the experience of a particular carrier.

12. N/A

13. N/A

14. N/A

15. EKG 93000-93010

16. Cardiac Stress Test (93015) 1 after initial -

17. Change initial consult to followups within 6 months (down-coding screen)

18. ICU/CCU Care 7 Mo/ 7 Qtr / 21 Yr.

19. Pathology Panels (anytime there are 2 or more tests, they are considered part of a panel).

20. Intensive (Critical) care

21. N/A

22. Ambulance - 6 trips in 30 days.

23. Repetitive Ambulance Screening

24. CT Scans same area of body same date of service.

25. Suspend more than 5 o.v. per month

26. Concurrent care within 3 days of surgery.

27. N/A

28. N/A

29. Complex consultations (100% review) (down-coding screen to comprehensive).

30.	Automated multi-channel lab test (100%)
31.	N/A
32.	90270 Extended hospital visit
33.	90070
34.	90580, 1 per year/ 90550, 90560, 90570, 1 in 6 mos., etc.
35.	Hospital visits; extended and comprehensive.
36.	Medical care (pre-post) vs surgery 45 days or more.
37.	Critical care on prolonged (determination?) 100% review.
38.	None, may not work well for anyone else.
39.	N/A
40.	N/A
41.	Office visits six months 30 days
42.	Suspend replacement lenses.
43.	Nail excision 11750
44.	N/A

Page 11, Question 1: Could you describe the bundling program?

Survey #	Answer
1.	Major vs. minor surgery after care lab panels - automated total fee EKG's and X-rays and radiation therapy
2.	Audits set up for all surgical procedure codes with follow-up care. (This is really global fees for surgery.)
3.	NA
4.	All major surgical procedures have pre-operative and post-operative care by the same physician built into the surgery allowance.
5.	NA
6.	?

7. NA

8. NA

9. NA

10. 1) Medicare A-B data link to avoid duplicate payments for inpatient interpretation of tests.

    2) Global fees for surgery. We use a screen for automatic denial of office, home and hospital visits by the surgeon in the after-care period and another screen for other medical care during the after-care period.

11. NA

12. In general we will bundle services when the following applies: Same month, place of service, type of service & procedure code, provider number and number of services with the exception of Path., Anes. & Psych services that have specific lumping guidelines.

13. Pre-op and Post-op medical services in the hospital are bundled.

14. We evaluate physician services for what they should contain. Pre-operative and post-operative care are combined with a major surgical procedure. Individual lab tests that are commonally performed as an automated panel are combined.

15. Supplies or procedures normally considered part of the major procedure that are reported separately are combined with the major procedure. Global fees for surgery.

16. The global fee for surgery has been used in Texas since the beginning of medicine.

17. Most allowances for surgical procedures include two days pre-op and a specified number of follow-up days. We do not pay the surgeon for a preoperative consultation within five days prior to the surgery.

18. Varied, based upon the type of service. Some examples are automatic denial of pre and post operative visits and diagnostics, automatic denial of incidental surgery procedures, automatic pro-ration of multiple surgeries, screens for specific procedures such as PTCA, and special instructions for such procedures as lithotripsy electrophysiologic studies, and non- envasive vascular testing.

19. global fees for surgery

20. Each surgery allowance includes "X" number of follow-up days (not X number of follow-up visits). Office or hospital visits are not allowed in addition to the surgery in most instances. This policy does not apply to hospital admission or consultations.

21. Deny services rather than bundle
* Serial surgery for podiatry - bundle
* Bundle lab services

22. NA

23. Pennsylvania Blue Shield medical policy calls for bundling of ancillary services as well as pre and post operative care. There are approximately 700 ancillary combinations. One of our most common combinations is physical therapy treatment to two or more modalities (e.g., whirlpool, paraffin bath) is combined to a code for "physical therapy two or more modalities."

24. NA

25. NA

26. Global fees for surgery, combined office call and procedure. (OMT, Physio, etc.)

27. Our "surgery fee" includes the surgery and post-op care (Pre-op is not included.

28. Describe pre - post op- content and concurrent care

29. Bundling vs fragmentation, ie:
- Major surgical global fee
- Related surgical procedures

30. NA

31. NA

32. NA

33. NA

34. NA

35. no page 11

36. NA

37.	global fees for surgery
38.	Global fee for surgery (block pricing). Office visits - all bundle - pelvic exam with office visit
39.	NA
40.	NA
41.	NA
42.	Certain related procedures performed on the same day in the same location by the same provider are combined and processed with the appropriate procedure code.
43.	NA
44.	NA

Page 12, Question C: Describe other techniques for controlling volume and intensity that you have successfully used under Part B of Medicare.

Survey #	Answer
1.	NA
2.	Screening of services included in monthly capitation for ESRD Screening for services included in the composite rate for ESRD Down-coding screens explained on p. 9 Down coding of initial office, SNF, NH, home ER, consultations to follow-up visit.
3.	Post payment reviews. The level of services are sometimes changed. Example - provider bills all visits as intermediate, and describes the service as limited.
4.	In addition to the required prepayment and postpayment review activities, we have an agressive fraud and abuse program. Providers are aware that we actively pursue potential fraud and abuse situations. We refer many cases to the Office of Inspector General (OIG).

We also have many carrier prepayment screens (non-medical) that control volume and intensity, e.g., 1) screens for controlling payment of services that are parts of other services and 2) screens controlling duplicate payments for technical or professional components of diagnostic services. These screens are developed in conjunction with our Medical Staff, but are not counted as Medical Review savings.

Although codes were not changed to prevent upcoding, many of the allowances are the same. This occurred when we converted to HCPCS with pricing being equal for many levels contained in CPT-4. Therefore, upcoding is somewhat controlled by the pricing and payments.

5. Based on the diagnosis stated we will reduce a provider's procedure code when deemed appropriate. We consider the 90450, 90050, 90250 etc. the normal level of care (any codes above these will be suspended for further review).

6. NA

7. Education, resulting in the sentinel effect.

8. Provider Education resulting in the sentinel effect.

9. Carrier Screens - including downcoding
Monitoring specific provider's claims
Monitor specific codes - ex: Mastectomy codes.
Educate the provider community in Medicare newsletters
Provider contact by telephone or on-site professional Relations Rep visits
Comprehensive postpayment reviews and educational contacts.
Exchange of information and data (tapes)
Global fees with surgeries

10. We have the capability through our Entity Action Records (EARS) to program edits into the system. We have successfully used this capability to limit incidental surgeries and fragmented charges. We have also use it to flag specific abusing providers for pre-payment review of their claims.

11. Postpayment review has identified several physicians having patterns of upcoding. Repayment screens have been developed for these individuals which reduce the level of care if documentation for the higher code is not provided. Also, overpayments are assessed for cases of upcoding and this has a deterrent effect.

12. If the documentation provided didn't meet criteria for the service the service would be down coded (i.e. above standard

DME down coded to standard; consultation down coded to office call)

13. On line physician screens are created upon discovery of an abusive pattern to control future submissions.

14. Parameters control volume and intensity of payment. It may not however, effect practice patterns of physicians. Provider workshops, Medicare Informational Newsletters, phone lines, physician letters and one-on-one meetings assist in controlling volume.

A suspect physicial listing may depict the downcoding of services billed based on post payment audit findings.

15. The bureau system has the benefit of familiarity with local practice and increased ability to identify problems and changes in the provider billing pattern.

If upon review submitted codes do not reflect the documented level of care, the code is changed using CPT guidlines. The provider is contacted and may be placed on review (pre-pay if a pattern).

16. Postpayment and Program Integrity - are both effective sentential measures for volume and intensity. Our diagnosis to procedure codes relationship are also effective and we plan to increase their number since diagnosis coding is mandated April 1, 1989.

Unless on prepayment as an offender for abusive practice patterns in upcoding.

17. Several down-coding screens

18. -Automatic denial for set conditions and procedures when billed by a designated physician.
-Automated denial of procedures not covered by Medicare.
-Automatic handling of multiple surgical procedures to properly compute the allowance.
-System edits for manual review for medical necessity at initial entry.
-System enhancements which display guidelines or warnings on the CRT screen for the claims examiners during initial entry.

19. One down-coding screen: no more than one (initial) new patient office visit per patient history.

20. ?

21. Prof. relations program - meet with physicians
-train and educate providers [is] extremely effective
-personal contact

Down-coding manually

Mandated to go to CPT codes in 1985

22. NA

Only used HCPCS

23. Pennsylvania Blue Shield presently utilizes a combination of techniques to address utilization and the intensity of services billed to the Part B program. A number of these have been discussed in other parts of this survey. To summarize, our techniques include a wide variety of prepayment computerized screens that suspend claims for manual review, an extensive post payment monitoring process, and an elaborate ancillary processing system. Other techniques would include the following:

-Procedures of current questionalbe usefulness
  Procedures that are outmoded or outdated and listed and reviewed submitted by providers.
-Paneling of lab services
  Our system automatically combines elements of a lab panel to the proper panel code
-Flagged and Sanctioned Providers
  All claims submitted by suspect providers are reviewed for the propriety of the services rendered
-Post operative days
  Codes are assigned post operative periods. Services reported within the post-operative period are also reviewed for the propriety of the service.

The present HCPCS coding system prohibits carriers from changing coding in order to prevent upcoding by providers. Standardized coding systems must be consistently recognized, thus the carrier is unable to reduce the number of codes in order to control coding patterns. Pennsylvania Blue Shield does initiate educational communication if providers experience difficulty in properly coding claims. Pennsylvania Blue Shield will also "down-grade" reimbursement for services based on medical necessity.

24. Check for upcoding pattern in post payment review. They separate services rather than bundle into one payment.

25. NA

26. Identify them on postpay and put them on prepay. We have not reduced the number of codes we recognize but have set up audits that suspend excessive numbers of comprehensive codes.

27. NA

Newsletters advising providers of codes we consider "routine". Educational contacts to specific providers noted to be upcoding. Edits to kick out repeated use of extended codes such as 90080,90015, 90020.

28. We educate doctors to appropriate levels of care on postpay basis. Identify higher codes in postpay - put on prepay. May place on prepay review to determine appropriate billings.

29. We work closely with our provider relations department to keep physicians/suppliers informed of changes.

The P.R. Department presents monthly seminars to educate providers/suppliers. Quarterly bulletins are sent. We have the ability to print messages at the bottom of EOMB's The post payment unit presents documentation seminars at hospitals and for physician groups. We work closely with our Medical Director to keep abreast of the current patterns in medical practice. Physicians/Suppliers who present patterns of overutilizations can be put on a prepayment review to better control his volume of work processed and collect data to educate him.

We do make our peer group comparisons based upon borad ranges, eg: intermediate and lower vs extended and above

30. NA

31. Prepayment screens have been added for services billed as extended or comprehensive visits (e.g. office, SNF, NH, eye exams, etc.) Down-coding screens, identify high codes on prepayment review.

32. NA

33. NA

34. NA

35. no page 12

36. no data

37. Down-coding screens

38. Mostly education studies trying to inform physicians of appropriate billing procedures.

1985 special objective - upcoding letter - 95% turn around for compliance with letter
-same specialty at same time received letter
-saved over $937,822

39. We use postpay review to look at those physicians who use a higher level of care (upcoding) for the majority of the patients.

Initial visits versus established visits screen was implemented.

40. We do not use techniques. We use the postpay review to look at those doctors who use a higher level of care (upcoding) for the majority of their patients.

We use CPT

41. Publishing conditions considered necessary to allow charges for procedures.

42. Medicare Part B is conducting educational programs and workshops throughout the State of Florida. These programs are designed for the provider community to provide the most accurate and up-to-date information and to promote understanding of the Medicare program.

Certain frequently billed level of visits were reviewed by medical consultants. Medical policy was developed to change the higher level to a lower level of visit.

43. NA

44. NA

APPENDIX C: EFFECTIVENESS RESULTS TABLES BY SCREEN AND CARRIER

EFFECTIVENESS OF ROUTINE FOOT CARE SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00550	COLORADO	1395	7947	2196	4672	3029	2212	1558
00630	INDIANA	-969	4694	-745	1863	-503	-745	-913
00803	GNY	252011	-7	134271	126002	11725	131868	227982
00910	UTAH	264	-770	227	-254	193	227	258
05130	IDAHO EQ	43019	684	39584	21851	36009	39514	42318
IMPL AFTER 1/86								
SUM		295721	12548	175533	154134	50453	173076	271203
AVERAGE		59144	2510	35107	30827	10091	34615	54241

1. There are no bad unscreened (i.e., unreviewed) claims. Calculations based on this assumption are labeled "B1" calculations. This assumption provides the upper limit on a screen's effectiveness.

2. The percent of bad unscreened claims is equal to the percent of bad screened claims (B2 calculations). This assumption implies that the screening parameters are no better than a simple random draw in selecting claims to be screened. Therefore, in most cases it will set the lower limit on a screen's effectiveness.

3. The percent of bad unscreened claims is equal to the average value indicated by carriers responding to this question on the carrier survey (B3 calcuation).

4. The percent of bad unscreened claims is 1/2 of the percent of bad screened claims (B4 calculation).

5. Ten percent of the unscreened claims are bad (B5 calculation).

6. Five percent of the unscreened claims are bad (B6 calculation).

7. One percent of the unscreened claims are bad (B7 calculation).

EFFECTIVENESS OF ROUTINE FOOT CARE SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00550	COLORADO	940	-991	819	-24	692	817	916
00590	FLORIDA	23927	-382970	14832	-179522	5317	14552	22108
00630	INDIANA	-2403	-1826	-1993	-2105	-1565	-1993	-2310
00650	KANSAS	-441	-25	-232	-233	-14	-228	-399
00660	KENTUCKY	4084	497	3757	2288	3413	3749	4015
00700	MASS	-22337	-1053	-22145	-11695	-21944	-22141	-22298
00803	GNY	222995	0	127229	111498	27553	125274	203451
00870	R.I.	122	-1160	-397	-519	-929	-404	13
00900	TEXAS	-1044	-9803	-976	-5422	-908	-979	-1031
00910	UTAH	1519	-2262	1360	-370	1194	1356	1485
02050	OCCIDENTA	-1487	4517219	73	2257902	1669	109	-1161
05440	TENN EQ	105	11052	114	5579	122	115	107
10490	VA T	9364	3349	6645	6357	3814	6593	8811
13310	N.J. PRUD	-50811	-107141	-46478	-79028	-41990	-46426	-49882
13340	N.C. PRUD	-311	-2431	-652	-1371	-1007	-659	-381
14330	NY GHI	24739	0	13458	12369	1718	13228	22437
16360	NATIONWID	9819	20387	8741	15091	7616	8717	9584
21200	MAINE	-1804	-43	-4889	-924	-8100	-4952	-2434
ALL CARRIERS								
SUM		216974	4042800	99264	2129872	-23351	96728	193030
AVERAGE		12054	224600	5515	118326	-1297	5374	10724

EFFECTIVENESS OF ROUTINE FOOT CARE SCREEN FOR ALL CARRIERS

COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00542	CALIF	50697	462129	50514	256413	50331	50514	50605
00550	COLORADO	1395	7947	2196	4672	3029	2212	1558
00590	FLORIDA	40578	-119774	30363	-39598	20009	30223	38619
00630	INDIANA	-969	4694	-745	1863	-503	-745	-913
00640	IOWA	1811	-126	1384	842	939	1375	1724
00650	KANSAS	158	25	92	92	24	91	144
00660	KENTUCKY	3967	314	3648	2136	3313	3640	3897
00700	MASS	-10964	-934	-13066	-5949	-15253	-13109	-11394
00740	K. C.	-284	-858	-335	-571	-388	-336	-294
00803	GNY	252011	-7	134271	126002	11725	131868	227982
00870	R.I.	-1744	-1678	-1711	-13426	-1354	-1549	-1785
00900	TEXAS	-994	-12643	-951	-6817	-903	-951	-984
00910	UTAH	264	-770	227	-254	193	227	258
01030	ARIZONA	-4868	-37083	-4859	-20975	-4850	-4859	-4868
01120	HAWAII A	9	207	11	108	13	11	10
01290	NEVADA A	-201	-1822	-203	-1011	-205	-204	-201
01380	OREGON A	186	503	169	344	152	169	182
02050	OCCIDENT	-1233	4519940	290	2259353	1886	326	-907
05130	IDAHO EQ	43019	684	39584	21851	36009	39514	42318
05440	TENN EQ	-13	5358	0	2672	12	0	-11
10490	VA T	9846	425	6713	5133	3449	6649	9208
13310	N.J. PRU	-37708	-105336	-34510	-71548	-31209	-34459	-37038
13340	N.C. PRU	-284	-2421	-629	-1353	-989	-636	-354
14330	NY GHI	32218	0	18077	16109	3359	17788	29332
16360	NATIONWI	10029	18020	8834	14013	7592	8787	9772
21200	MAINE	-2006	-84	-5469	-1045	-9073	-5539	-2713
ALL CARRIERS								
SUM		384919	4736709	233898	2549056	77309	231009	354148
AVERAGE		14256	175434	8663	94409	2863	8556	13117

EFFECTIVENESS OF MYCOTIC NAILS SCREEN
FOR CARRIERS WHO IMPLEMENTED THE SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00630	INDIANA	-16417	-7903	-13842	-12160	-13352	-14883	-16113
00930	WASH	-2126	-38939	-1978	-20547	-1948	-2066	-2126
01380	OREGON A	6915	-63429	2621	-28262	1795	4355	6395
05130	IDAHO EQ	280	1204	250	742	244	263	276
IMPL AFTER 1/86								
SUM		-11347	-109066	-12948	-60227	-13261	-12331	-11567
AVERAGE		-2837	-27267	-3237	-15057	-3315	-3083	-2892

EFFECTIVENESS OF MYCOTIC NAILS SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00630	INDIANA	-9572	-8672	-8444	-9120	-8233	-8899	-9437
00930	WASH	1210	37581	1122	19366	1092	1122	1181
01020	ALASKA A	168	-1113	127	-473	119	144	163
01380	OREGON A	8241	-18787	4059	-5273	3264	5752	7741
05130	IDAHO EQ	-763	7543	538	3390	785	12	-609
IMPL AFTER 1/86								
SUM		-716	16552	-2598	7890	-2972	-1870	-961
AVERAGE		-143	3310	-520	1578	-594	-374	-192

EFFECTIVENESS OF MYCOTIC NAILS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00523	LOUISIANA	-641	4028	-72	1690	36	-300	-572
00550	COLORADO	1270	44475	1365	22868	1374	1317	1280
00590	FLORIDA	985	-21464	591	-10240	591	788	985
00630	INDIANA	-16417	-7903	-13842	-12160	-13352	-14883	-16113
00640	IOWA	513	-818	374	-157	357	435	487
00650	KANSAS	-560	-1069	-1011	-818	-1094	-824	-612
00660	KENTUCKY	1423	-269	1229	582	1186	1304	1401
00700	MASS	3303	185	26	1746	-599	1354	2913
00720	MINN BS	-459	706	-398	122	-386	-424	-451
00740	K. C.	7904	48931	7439	28417	7354	7633	7853
00801	WNY.	11872	-10375	10054	749	9733	10803	11658
00803	GNY	-21574	0	-15361	-10787	-14177	-17876	-20834
00865	PBS	-29678	-59	-27220	-14869	-26752	-28215	-29386
00900	TEXAS	2437	-153157	1397	-75360	1235	1852	2307
00930	WASH	-2126	-38939	-1978	-20547	-1948	-2066	-2126
01030	ARIZONA A	-8057	-16931	-14420	-12494	-15631	-11839	-8810
01120	HAWAII A	471	1022	480	748	482	476	471
01290	NEVADA A	-2141	-324	-1490	-1232	-1366	-1753	-2063
01370	OKLA A	-7011	-2167	-3881	-4590	-3286	-5149	-6640
01380	OREGON A	6915	-63429	2621	-28262	1795	4355	6395
02050	OCCIDENTA	79	51285	2691	25722	3166	1662	475
05130	IDAHO EQ	280	1204	250	742	244	263	276
10240	MINN T	-561	-2579	-683	-1571	-704	-632	-572
10490	VA T	-141	7818	2248	3835	2700	1276	148
13110	GA PRUD	3773	53658	3683	28716	3683	3713	3743
13310	N.J. PRUD	-114416	10649	-96494	-51818	-92987	-103767	-112078
13340	N.C. PRUD	1177	93346	1535	47261	1586	1382	1228
14330	NY GHI	2946	1362	1239	2155	915	1931	2743
16360	NATIONWID	34959	-92059	-5710	-28550	-13518	10721	30182
21200	MAINE	-382	-9947	-10273	-5165	-12155	-6268	-1556
ALL CARRIERS								
SUM		-123855	-102819	-155610	-113267	-161518	-142732	-127268
AVERAGE		-4129	-3427	-5187	-3776	-5384	-4758	-4242

EFFECTIVENESS OF MYCOTIC NAILS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00542	CALIF	-25561	-208649	-23064	-117105	-22470	-24134	-25323
00550	COLORADO	1045	47317	1233	24176	1270	1158	1063
00590	FLORIDA	5908	208343	5908	107125	5908	6105	6105
00630	INDIANA	-9572	-8672	-8444	-9120	-8233	-8899	-9437
00640	IOWA	748	-1870	531	-565	496	618	713
00650	KANSAS	1635	-8163	-2485	-3264	-3271	-818	1146
00660	KENTUCKY	1951	-172	1681	884	1628	1789	1919
00700	MASS	-3723	-1112	-20443	-2416	-23628	-13674	-5713
00720	MINN BS	-443	2986	-365	1273	-348	-396	-432
00740	K. C.	7904	48931	6787	28417	6575	7244	7769
00801	WNY.	-3423	5027	-2888	802	-2781	-3102	-3369
00803	GNY	-12582	-13	-9782	-6297	-9249	-10916	-12249
00820	N. D.	-241	2	-207	-118	-203	-220	-236
00865	PBS	1070	29	2259	550	2485	1778	1211
00900	TEXAS	1170	121148	6109	61159	7052	4127	1755
00930	WASH	1210	37581	1122	19366	1092	1122	1181
01020	ALASKA A	168	-1113	127	-473	119	144	163
01030	ARIZONA A	-4989	-11027	-11312	-8008	-12514	-8751	-5737
01120	HAWAII A	199	1215	852	707	977	588	277
01290	NEVADA A	-296	-281	-282	-289	-279	-287	-294
01370	OKLA A	60	302	481	180	561	311	110
01380	OREGON A	8241	-18787	4059	-5273	3264	5752	7741
02050	OCCIDENTA	2295	54451	3561	28333	3878	3087	2453
05130	IDAHO EQ	-763	7543	538	3390	785	12	-609
05440	TENN EQ	-1005	-17169	-814	-9084	-776	-884	-980
10240	MINN T	-244	-1181	-340	-713	-358	-301	-253
10250	MISS T	-2711	912	221	-899	779	-966	-2361
10490	VA T	22	5326	608	2670	712	363	96
13110	GA PRUD	1797	27817	1797	14792	1827	1797	1767
13310	N.J. PRUD	-85974	10779	-72598	-37533	-69870	-78052	-84286
13340	N.C. PRUD	461	77532	844	38996	921	691	512
14330	NY GHI	2736	1623	1688	2181	1489	2113	2613
16360	NATIONWID	-3030	-208940	-41951	-106043	-49409	-26219	-7575
21200	MAINE	-538	-396	1358	-467	1712	580	-325
ALL CARRIERS								
SUM		-116474	171318	-153211	27336	-159858	-138244	-120585
AVERAGE		-4853	7138	-6384	1139	-6661	-5760	-5024

EFFECTIVENESS OF NURSING HOME VISITS SCREEN
FOR CARRIERS WHO IMPLEMENTED THE SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00630	INDIANA	-2	-8	5	-5	2	0	-2
00930	WASH	-5575	-16653	-4304	-11149	-4798	-5151	-5433
01020	ALASKA A	-1055	-334	-1164	-694	-1120	-1087	-1061
01380	OREGON A	9800	29	6072	4915	7561	8680	9575
05130	IDAHO EQ	-861	6504	-505	2822	-645	-753	-836
IMPL AFTER 1/86								
SUM		2308	-10461	104	-4112	1000	1688	2243
AVERAGE		462	-2092	21	-822	200	338	449

EFFECTIVENESS OF NURSING HOME VISITS SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00930	WASH	5363	151854	7339	78538	6562	5998	5504
01020	ALASKA A	52	-73	-246	-10	-127	-37	35
01380	OREGON A	15751	2204	10671	8978	12701	14226	15446
05130	IDAHO EQ	-14456	18047	-7456	1796	-10244	-12354	-14034
IMPL AFTER 1/86								
SUM		6711	172032	10308	89301	8892	7833	6951
AVERAGE		1678	43008	2577	22325	2223	1958	1738

EFFECTIVENESS OF NURSING HOME VISITS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00520	ARKANSAS	33628	2451	-9201	18039	7915	20771	31057
00528	LOUISIANA	63483	11176	13641	37312	33529	48523	60463
00550	COLORADO	7115	82220	7085	44638	7115	7085	7115
00590	FLORIDA	21718	334213	19908	177966	21115	21416	22019
00630	INDIANA	-2	-8	5	-5	2	0	-2
00640	IOWA	105303	7467	38366	56385	65070	85200	101298
00660	KENTUCKY	-227	-29692	-680	-14959	-499	-317	-227
00700	MASS	-20916	-110768	-11195	-65695	-15024	-17970	-20327
00720	MINN BS	-450	-6113	-450	-3266	-479	-450	-450
00801	WNY.	590	-3069	256	-1239	393	512	571
00803	GNY	-30090	-8827	6219	-19659	-8225	-19258	-27683
00820	N. D.	61	442	46	244	46	46	46
00865	PBS	222307	110170	124925	166074	163779	193125	216405
00870	R.I.	2482	-3269	-6302	-433	-2797	-197	1930
00880	S. C.	-2492	-1860	-1750	-2176	-2042	-2261	-2443
00900	TEXAS	6390	-31821	1406	-12779	3323	4984	6134
00910	UTAH	-1705	-23373	-1437	-12539	-1543	-1620	-1684
00930	WASH	-5575	-16653	-4304	-11149	-4798	-5151	-5433
01020	ALASKA A	-1055	-334	-1164	-694	-1120	-1087	-1061
01030	ARIZONA A	-6637	-47475	-12995	-27067	-10473	-8534	-7025
01120	HAWAII A	18974	456	9603	9710	13347	16161	18411
01370	OKLA A	-23839	-15083	-9984	-19461	-15537	-19674	-23011
01380	OREGON A	9800	29	6072	4915	7561	8680	9575
02050	OCCIDENTA	-72914	-1947	27556	-37439	-12577	-42745	-66893
05130	IDAHO EQ	-861	6504	-505	2822	-645	-753	-836
05440	TENN EQ	-70292	291	-49711	-35001	-57931	-64111	-69056
10240	MINN T	-39223	-51703	-14764	-45463	-24570	-31869	-37719
10490	VA T	-49876	-5031	3170	-27453	-18011	-33955	-46682
11260	GEN AM	16410	19305	12962	17789	14341	15306	16134
13110	GA PRUD	-92410	137136	-18482	22363	-48053	-70293	-87974
13340	N.C. PRUD	-7557	53738	-2699	23104	-4615	-6100	-7260
14330	NY GHI	2195	5037	6297	3634	4677	3454	2483
16360	NATIONWID	-9670	-97939	-11934	-53702	-11111	-10493	-9876
21200	MAINE	-6474	13655	-2790	3572	-4241	-5395	-6251
ALL CARRIERS								
SUM		68189	329326	117169	198385	97922	83029	71746
AVERAGE		2006	9686	3446	5835	2880	2442	2110

EFFECTIVENESS OF NURSING HOME VISITS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00520	ARKANSAS	29838	-4942	-12924	12441	4165	16995	27267
00528	LOUISIANA	59248	13918	14161	36583	32175	45712	56541
00542	CALIF	136858	81476	83895	109210	105063	120961	133748
00550	COLORADO	9181	104303	9093	56742	9122	9122	9152
00590	FLORIDA	32878	620165	33180	326371	33180	33180	32878
00640	IOWA	95616	9416	37094	52516	60470	78030	92099
00660	KENTUCKY	2629	-29239	1360	-13327	1859	2267	2539
00700	MASS	-9427	-100458	-13846	-54795	-12078	-10605	-9427
00720	MINN BS	1678	-9859	869	-4105	1169	1438	1618
00801	WNY.	3541	-531	2479	1495	2912	3227	3482
00803	GNY	-18656	-26279	-13240	-22467	-15246	-17051	-18255
00820	N. D.	1463	-655	1006	396	1189	1326	1433
00865	PBS	201486	-2724240	-53118	-1261377	48527	124925	186075
00870	R.I.	748	-10675	-8587	-5002	-4845	-2088	158
00880	S. C.	-18366	-7111	-13115	-12751	-15218	-16786	-18063
00900	TEXAS	2811	-96229	-3323	-46773	-895	1022	2428
00910	UTAH	-747	-17794	-697	-9270	-719	-726	-740
00930	WASH	5363	151854	7339	78538	6562	5998	5504
01020	ALASKA A	52	-73	-246	-10	-127	-37	35
01030	ARIZONA A	-7844	-62926	-15193	-35385	-12262	-10042	-8297
01120	HAWAII A	17819	4967	9613	11388	12892	15355	17334
01290	NEVADA A	-713	-2207	-522	-1458	-600	-651	-698
01370	OKLA A	-17459	-9317	-2803	-13401	-8649	-13054	-16604
01380	OREGON A	15751	2204	10671	8978	12701	14226	15446
02050	OCCIDENTA	-64329	-1461	28448	-32911	-8617	-36481	-58763
05130	IDAHO EQ	-14456	18047	-7456	1796	-10244	-12354	-14034
05440	TENN EQ	-30537	339	-21515	-15099	-25118	-27828	-29995
10240	MINN T	-23567	-51480	-13260	-37552	-17383	-20447	-22899
10250	MISS T	-149	17	232	-66	80	-34	-126
10490	VA T	17345	-5215	-32944	6065	-12865	2228	14313
11260	GEN AM	32405	12962	25235	22615	27993	30061	31854
13110	GA PRUD	-63640	160423	185	48361	-25382	-44541	-59820
13340	N.C. PRUD	-1323	34224	-27	16437	-540	-945	-1242
14330	NY GHI	2303	1619	-4246	1979	-1619	360	1943
16360	NATIONWID	-8847	-126744	-13991	-67693	-11934	-10493	-9259
21200	MAINE	6548	54098	6809	30323	6734	6623	6585
ALL CARRIERS								
SUM		395506	-2017405	40617	-811209	182453	288890	374212
AVERAGE		10986	-56039	1128	-22534	5068	8025	10395

EFFECTIVENESS OF NEW PATIENT OFFICE VISIT SCREEN
FOR CARRIERS WHO IMPLEMENTED THE SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00801	WNY.	-23892	-76962	-17837	-50427	-19818	-21910	-23562
00630	INDIANA	625	4439	-4001	2563	-2438	-875	313
00930	WASH	-1314	-274043	-1022	-137679	-1119	-1217	-1314
01380	OREGON A	4065	98915	3790	51506	3913	4004	4065
05130	IDAHO EQ	-2870	8175	-1988	2657	-2282	-2576	-2820
IMPL AFTER 1/86								
SUM		-23386	-239476	-21057	-131380	-21745	-22574	-23317
AVERAGE		-4677	-47895	-4211	-26276	-4349	-4515	-4663

EFFECTIVENESS OF NEW PATIENT OFFICE VISITS SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00801	WNY.	-28406	-66392	-20919	-47344	-23452	-25874	-27856
00630	INDIANA	625	5126	-2126	2876	-1188	-250	438
00910	UTAH	-14	-8989	-14	-4501	-14	-14	-14
00930	WASH	-1460	-154225	-876	-77818	-1071	-1265	-1411
01020	ALASKA A	192	7849	185	4022	187	192	192
01380	OREGON A	2507	58016	2354	30292	2415	2476	2507
05130	IDAHO EQ	-3550	8175	-2465	2312	-2840	-3195	-3479
IMPL AFTER 1/86								
SUM		-30106	-150440	-23861	-90162	-25962	-27930	-29624
AVERAGE		-4301	-21491	-3409	-12880	-3709	-3990	-4232

EFFECTIVENESS OF NEW PATIENT OFFICE VISIT SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00528	LOUISIANA	425	10703	284	5529	284	354	354
00542	CALIF	0	0	0	0	0	0	0
00590	FLORIDA	278223	-41141	-221742	118541	-49508	115055	246148
00630	INDIANA	625	4439	-4001	2563	-2438	-875	313
00660	KENTUCKY	24817	1360	18641	13145	20794	22834	24420
00720	MINN BS	-6334	-3411	-1670	-4869	-3281	-4810	-6030
00801	WNY.	-23892	-76962	-17837	-50427	-19818	-21910	-23562
00803	GNY	-103349	171396	-37349	33768	-59861	-81349	-98745
00820	N. D.	-241	24	-193	-121	-205	-229	-241
00865	PBS	-2401	-48510	-28818	-25456	-19692	-11047	-3842
00930	WASH	-1314	-274043	-1022	-137679	-1119	-1217	-1314
01030	ARIZONA A	5226	-10964	-717	-2767	1230	3279	4816
01290	NEVADA A	1356	-7823	226	-3219	621	988	1299
01370	OKLA A	-33384	-50106	7804	-41745	-6379	-19881	-30658
01380	OREGON A	4065	98915	3790	51506	3913	4004	4065
02050	OCCIDENTA	-29318	-374267	-15594	-201480	-20585	-24951	-28694
05130	IDAHO EQ	-2870	8175	-1988	2657	-2282	-2576	-2820
05440	TENN EQ	-14846	19706	-10781	2474	-12195	-13432	-14581
10240	MINN T	-3391	3213	8420	-93	4354	481	-2623
10250	MISS T	-2126	-966	2190	-1514	709	-709	-1868
10490	VA T	-906	10342	10720	4756	6719	2944	-75
11260	GEN AM	119	5952	60	3035	60	60	60
13110	GA PRUD	-8422	-40858	-14113	-24583	-12178	-10243	-8764
13310	N.J. PRUD	-4503	35866	8042	15762	3699	-322	-3699
13340	N.C. PRUD	272	508063	27843	254213	18320	9251	2086
14330	NY GHI	-73	1019	655	437	364	146	-73
16360	NATIONWID	10237	-51578	2165	-20671	5118	7481	9646
ALL CARRIERS								
SUM		87995	-101455	-264985	-6237	-143358	-26675	65618
AVERAGE		3259	-3758	-9814	-231	-5310	-988	2430

EFFECTIVENESS OF NEW PATIENT OFFICE VISIT SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00528	LOUISIANA	-921	24383	354	11766	-142	-567	-921
00542	CALIF	0	0	0	0	0	0	0
00550	COLORADO	-2227	12332	3956	5086	1862	-166	-1795
00590	FLORIDA	309602	-577366	-243358	-133882	-52995	129001	273342
00630	INDIANA	625	5126	-2126	2876	-1188	-250	438
00640	IOWA	0	-38187	-244	-19111	-174	-105	0
00660	KENTUCKY	43401	1926	32579	22664	36375	39888	42721
00700	MASS	3530	6132	57787	4831	39020	21182	6875
00720	MINN BS	-483	-374	-49	-423	-206	-342	-455
00801	WNY.	-28406	-66392	-20919	-47344	-23452	-25874	-27856
00803	GNY	-32233	249676	-4093	108977	-13302	-22512	-30186
00820	N. D.	-1158	-24	-881	-591	-977	-1062	-1134
00865	PBS	-7204	-158018	-40825	-82611	-29298	-18251	-9126
00870	R.I.	-7377	41633	9779	17099	3889	-1716	-6234
00900	TEXAS	-2423	-242755	-1696	-122589	-1938	-2423	-2423
00910	UTAH	-14	-8989	-14	-4501	-14	-14	-14
00930	WASH	-1460	-154225	-876	-77818	-1071	-1265	-1411
01020	ALASKA A	192	7849	185	4022	187	192	192
01030	ARIZONA A	7480	-1537	-717	2972	2049	4714	6865
01120	HAWAII A	200	11265	141	5733	157	179	200
01290	NEVADA A	1327	21971	762	11663	960	1158	1299
01370	OKLA A	310	-54813	-3530	-27252	-2230	-929	62
01380	OREGON A	2507	58016	2354	30292	2415	2476	2507
02050	OCCIDENTA	-184014	-255125	-43664	-219570	-92319	-137855	-174658
05130	IDAHO EQ	-3550	8175	-2465	2312	-2840	-3195	-3479
05440	TENN EQ	-11753	19706	-8483	3977	-9632	-10693	-11576
10240	MINN T	-2623	-4959	-171	-3787	-1017	-1816	-2460
10250	MISS T	-3188	612	4187	-1288	1643	-773	-2705
10490	VA T	830	3397	-755	2114	-226	302	830
11260	GEN AM	60	-92666	0	-46303	0	0	0
13110	GA PRUD	-10357	-40176	-8536	-25152	-9219	-9674	-10129
13310	N.J. PRUD	3538	129473	37636	66586	25734	14636	5629
13340	N.C. PRUD	-181	509151	33556	254576	21948	10883	2086
14330	NY GHI	-2985	5970	8372	1456	4441	728	-2330
16360	NATIONWID	394	-76186	-2756	-37798	-1575	-591	197
ALL CARRIERS								
SUM		71438	-655000	-194510	-291021	-103135	-14732	54351
AVERAGE		2041	-18714	-5557	-8315	-2947	-421	1553

EFFECTIVENESS OF HOLTER MONITORING SCREEN
FOR CARRIERS WHO IMPLEMENTED THE SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00630	INDIANA	13476	112939	11470	63288	10508	11952	13235
00930	WASH	361324	-52100	303851	154594	275568	318446	352756
01380	OREGON A	-8974	-86337	-10350	-47667	-11026	-9989	-9177
05130	IDAHO EQ	-1009	2499	-827	744	-738	-874	-983
IMPL AFTER 1/86								
SUM		364816	-22999	304145	170958	274312	319535	355831
AVERAGE		91204	-5750	76036	42740	68578	79884	88958

EFFECTIVENESS OF HOLTER MONITORING SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00630	INDIANA	10187	2888	6818	6577	5214	7620	9706
00930	WASH	366443	24580	308534	195511	279997	323238	357802
01020	ALASKA A	0	0	-108	0	-162	-81	-16
01380	OREGON A	-744	-6133	-1736	-3450	-2255	-1488	-902
00910	UTAH	5237	34416	4578	19832	4249	4748	5141
05130	IDAHO EQ	613	7386	618	3999	619	616	615
IMPL AFTER 1/86								
SUM		381736	63136	318704	222470	287662	334653	372346
AVERAGE		63623	10523	53117	37078	47944	55776	62058

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EFFECTIVENESS OF HOLTER MONTIORING SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00528	LOUISIANA	-26761	-120670	-23258	-73667	-21506	-24037	-26178
00542	CALIF	462479	-220914	-1320319	120918	-2198267	-867894	196458
00550	COLORADO	12698	20425	11386	16562	10721	11719	12495
00590	FLORIDA	605	-36303	605	-17546	0	605	605
00630	INDIANA	13476	112939	11470	63288	10508	11952	13235
00640	IOWA	-3284	-11887	-2892	-7573	-2720	-2990	-3235
00660	KENTUCKY	19728	-16910	17358	1345	16269	17999	19344
00700	MASS	-49709	-210043	-80438	-129785	-95622	-72665	-54228
00720	MINN BS	3070	-7324	2543	-2123	2288	2675	2995
00740	K. C.	5829	8806	5200	7339	4864	5368	5745
00751	MONTANA	-1158	-3837	32055	-2490	48416	23629	3801
00801	WNY.	14530	-60323	12194	-22962	11157	12843	14270
00803	GNY	269426	4075	123040	136754	50930	160182	247571
00820	N. D.	2944	20812	2728	11878	2641	2800	2915
00865	PBS	-65663	-456735	-86341	-261199	-96498	-81262	-68927
00870	R.I.	-65	4048	82	1991	147	49	-49
00880	S. C.	-7394	-4822	-6429	-6108	-5929	-6679	-7287
00900	TEXAS	4668	-148311	-3591	-71821	-7900	-1436	3591
00930	WASH	361324	-52100	303851	154594	275568	318446	352756
01120	HAWAII A	857	3924	648	2391	544	706	828
01290	NEVADA A	-102	-19227	-849	-9664	-1223	-679	-221
01370	OKLA A	3407	1193	2590	2283	2181	2794	3271
01380	OREGON A	-8974	-86337	-10350	-47667	-11026	-9989	-9177
02050	OCCIDENTA	-2107976	-11690045	-2079875	-6899011	-2066022	-2086999	-2104018
05130	IDAHO EQ	-1009	2499	-827	744	-738	-874	-983
05530	WYOMING E	-1113	-204	-936	-659	-849	-981	-1087
10240	MINN T	187	-3853	-366	-1837	-630	-226	101
10490	VA T	-13429	-6844	-10266	-10110	-8710	-11096	-12962
11260	GEN AM	5450	487814	5134	246664	5007	5260	5450
13110	GA PRUD	-4224	-41360	-4622	-22792	-4782	-4463	-4224
13310	N.J. PRUD	35599	-185204	24559	-74803	18926	27262	33796
13340	N.C. PRUD	17028	136610	16550	76819	16454	16741	16933
14330	NY GHI	-5159	-61854	-6078	-33455	-6589	-5823	-5261
16360	NATIONWID	278844	363495	264101	321169	256809	267905	276624
ALL CARRIERS								
SUM		-783872	-12278467	-2801344	-6530534	-3795585	-2289158	-1085051
AVERAGE		-23055	-361131	-82392	-192075	-111635	-67328	-31913

EFFECTIVENESS OF HOLTER MONITORING SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00520	ARKANSAS	-492	-1477	1094	-985	1806	657	-274
00528	LOUISIANA	-18198	22772	-12845	2238	-10315	-14208	-17419
00542	CALIF	474163	-122820	-1314069	175535	-2194735	-860286	207327
00550	COLORADO	14990	45489	14196	30240	13789	14399	14861
00590	FLORIDA	67765	1741934	88942	905152	99228	83497	70791
00630	INDIANA	10187	2888	6818	6577	5214	7620	9706
00660	KENTUCKY	12810	-16333	11209	-1793	10505	11593	12554
00700	MASS	-22595	-170275	-60735	-96526	-79534	-51155	-28379
00720	MINN BS	3802	11529	3300	7670	3053	3423	3728
00740	K. C.	7464	69696	6668	38580	6248	6877	7339
00751	MONTANA	-840	-5523	-1383	-3178	-1651	-1245	-919
00801	WNY.	11935	-3892	10378	4022	9730	10767	11805
00803	GNY	246558	2074	105136	124316	35471	141019	225444
00820	N. D.	5239	20985	4633	13119	4359	4792	5152
00865	PBS	-90694	-502445	-103754	-296388	-110284	-100489	-92508
00870	R.I.	-2416	-25723	-2220	-14069	-2138	-2269	-2399
00880	S. C.	-7108	-19074	-6465	-13109	-6144	-6608	-7001
00900	TEXAS	-33038	-409740	-31960	-221569	-31242	-32320	-32679
00910	UTAH	5237	34416	4578	19832	4249	4748	5141
00930	WASH	366443	24580	308534	195511	279997	323238	357802
01020	ALASKA A	0	0	-108	0	-162	-81	-16
01030	ARIZONA A	-12735	-138264	-14008	-75499	-14675	-13705	-12917
01120	HAWAII A	6	-4075	-139	-2037	-208	-98	-17
01290	NEVADA A	-6930	-39472	-6573	-23201	-6403	-6675	-6879
01380	OREGON A	-744	-6133	-1736	-3450	-2255	-1488	-902
02050	OCCIDENTA	-107655	-277449	-90240	-192354	-81137	-94594	-105280
05130	IDAHO EQ	613	7386	618	3999	619	616	615
10240	MINN T	833	78	195	451	-117	358	739
10490	VA T	-19495	-84927	-17628	-52159	-16695	-18147	-19236
11260	GEN AM	4880	481540	4500	243178	4310	4627	4880
13110	GA PRUD	5339	-86625	1594	-40643	-239	2550	4782
13310	N.J. PRUD	-50469	-355988	-52272	-203229	-53173	-52046	-50920
14330	NY GHI	-4393	-53886	-5363	-29114	-5823	-5057	-4546
16360	NATIONWID	310865	662313	306585	486510	304366	307695	310231
ALL CARRIERS								
SUM		1171331	803556	-842521	987629	-1833988	-331994	870606
AVERAGE		48805	33481	-35105	41151	-76416	-13833	36275

EFFECTIVENESS OF CHIROPRATIC SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00550	COLORADO	1858514	-86727	1459738	885894	1497648	1678081	1822393
00630	INDIANA	-126912	-216754	-101721	-171793	-104112	-115512	-124600
00930	WASH	-123912	-200024	-103397	-161865	-105243	-114680	-121861
13110	GA PRUD	-195370	-184697	-149004	-189991	-153359	-174450	-191186
13310	N.J. PRUD	-212319	-555960	-263293	-384248	-258541	-235214	-217071
13340	N.C. PRUD	-90517	160998	-55877	35205	-59193	-74855	-87413
01020	ALASKA A	-625	-2228	-1203	-1424	-1145	-888	-678
01380	OREGON A	-33405	-37367	-23073	-35347	-24005	-28744	-32472
05130	IDAHO EQ	-6491	4786	-5205	-867	-5354	-5923	-6401
IMPL AFTER 1/86								
SUM		1068963	-1117972	756966	-24436	786695	927816	1040711
AVERAGE		118774	-124219	84107	-2715	87411	103091	115635

EFFECTIVENESS OF CHIROPRACTIC SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00550	COLORADO	1861699	33679	1467198	947711	1504672	1683185	1825970
00630	INDIANA	-74935	-145646	-56680	-110251	-58434	-66724	-73261
14330	NY GHI	29491	95682	33587	62586	33177	31334	29860
00930	WASH	-39389	487853	-12514	224232	-14976	-27285	-36927
01020	ALASKA A	-799	1750	1387	478	1182	189	-599
01380	OREGON A	-28200	4816	3651	-11653	621	-13828	-25248
13110	GA PRUD	-87097	-112287	-61993	-99735	-64298	-75740	-84791
13310	N.J. PRUD	-170849	-594191	-237590	-382736	-231326	-201087	-177112
13340	N.C. PRUD	-63496	111118	-43389	23776	-45294	-54395	-61732
05130	IDAHO EQ	-8286	59497	-4666	25576	-4995	-6641	-7957
IMPL AFTER 1/86								
SUM		1418139	-57729	1088991	679984	1120329	1269008	1388201
AVERAGE		141814	-5773	108899	67998	112033	126901	138820

EFFECTIVENESS OF CHIROPRACTIC SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00520	ARKANSAS	10161	-692	-605	4756	389	5318	9210
00528	LOUISIANA	-19679	-33802	-19042	-26740	-19042	-19390	-19563
00542	CALIF	-377849	-410769	-47917	-394309	-79740	-228977	-348221
00550	COLORADO	1858514	-86727	1459738	885894	1497648	1678081	1822393
00590	FLORIDA	6347844	2865629	5141760	4607031	5256008	5801926	6238896
00630	INDIANA	-126912	-216754	-101721	-171793	-104112	-115512	-124600
00640	IOWA	-15124	-50177	-15265	-32650	-15265	-15124	-15265
00660	KENTUCKY	16961	-4159	13781	6401	14066	15534	16676
00700	MASS	-92230	-84808	-63724	-88519	-66409	-79280	-89625
00740	K. C.	-35323	-1323	-28800	-18339	-29430	-32392	-34756
00751	MONTANA	-6143	-17492	-5551	-11825	-5601	-5880	-6093
00801	WNY.	57566	-15257	45865	21154	46895	52230	56536
00803	GNY	-42700	174196	35664	65748	28143	-7278	-35664
00820	N. D.	874	5169	874	3040	874	874	874
00865	PBS	324565	286098	28550	305332	56799	190832	297819
00870	R.I.	13394	13696	8808	13542	9238	11316	12977
00880	S. C.	10126	-7026	7336	1550	7595	8852	9868
00900	TEXAS	-26291	878115	16318	425731	12330	-6890	-22665
00910	UTAH	-13465	-41730	-12227	-27598	-12338	-12910	-13354
00930	WASH	-123912	-200024	-103397	-161865	-105243	-114680	-121861
01020	ALASKA A	-625	-2228	-1203	-1424	-1145	-888	-678
01030	ARIZONA A	-116137	-174766	-124833	-145451	-123991	-120064	-116838
01120	HAWAII A	1611	3668	1800	2639	1787	1692	1638
01290	NEVADA A	3210	-323	1016	1452	1242	2210	3016
01370	OKLA A	-75347	-115871	-68607	-95652	-69298	-72236	-74655
01380	OREGON A	-33405	-37367	-23073	-35347	-24005	-28744	-32472
02050	OCCIDENTA	59378	401093	135271	230039	128192	93982	66062
05130	IDAHO EQ	-6491	4786	-5205	-867	-5354	-5923	-6401
05440	TENN EQ	-24125	3856	-19527	-10134	-19972	-22048	-23729
10250	MISS T	-2364	-2626	-2265	-2495	-2265	-2331	-2364
10490	VA T	-3786	0	-1851	-1893	-2035	-2910	-3611
11260	GEN AM	-11856	568	-9663	-5684	-9907	-10881	-11694
13110	GA PRUD	-195370	-184697	-149004	-189991	-153359	-174450	-191186
13310	N.J. PRUD	-212319	-555960	-263293	-384248	-258541	-235214	-217071
13340	N.C. PRUD	-90517	160998	-55877	35205	-59193	-74855	-87413
14330	NY GHI	26583	110919	41164	68771	39813	33177	27934
16360	NATIONWID	-11690	-71581	-13566	-41563	-13421	-12555	-11834
21200	MAINE	-1826	62175	6105	30161	5375	1748	-1122
ALL CARRIERS								
SUM		7065302	2654808	5807834	4860057	5926725	6496360	6951164
AVERAGE		190954	71752	156968	131353	160182	175577	187869

EFFECTIVENESS OF CHIROPRACTIC SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
00520	ARKANSAS	11977	-346	-476	5837	692	6356	10853
00542	CALIF	-292257	-633528	-121073	-462710	-137533	-215078	-276894
00550	COLORADO	1861699	33679	1467198	947711	1504672	1683185	1825970
00590	FLORIDA	6332533	2823816	5128804	4578174	5243052	5788381	6223585
00630	INDIANA	-74935	-145646	-56680	-110251	-58434	-66724	-73261
00640	IOWA	43675	-43110	22332	283	24452	34064	41696
00660	KENTUCKY	26542	-3751	21609	11375	22057	24300	26053
00700	MASS	-59460	-91362	-43272	-75411	-44852	-52116	-57960
00740	K. C.	16133	6428	13234	11249	13486	14810	15850
00751	MONTANA	-10528	-33521	-9887	-22025	-9953	-10232	-10462
00801	WNY.	99781	-6927	80218	46427	81996	90888	98002
00803	GNY	-18681	119851	21593	50706	17711	-485	-14799
00820	N. D.	8361	8779	7069	8589	7183	7753	8247
00865	PBS	321860	265362	23140	293611	51389	186625	295114
00870	R.I.	12230	6643	7080	9433	7564	9897	11760
00830	S. C.	10608	-6544	7732	2032	8008	9300	10350
00900	TEXAS	-70895	813385	-16137	371155	-21214	-46054	-66180
00910	UTAH	-6098	-34950	-6018	-20516	-6018	-6050	-6082
00930	WASH	-39389	487853	-12514	224232	-14976	-27285	-36927
01020	ALASKA A	-799	1750	1387	478	1182	189	-599
01030	ARIZONA A	-112350	-165369	-119503	-138859	-118802	-115576	-112911
01120	HAWAII A	2125	3776	1773	2951	1814	1963	2098
01290	NEVADA A	258	-387	-81	-65	-32	97	226
01370	OKLA A	-20219	-56251	-23848	-38278	-23589	-21861	-20478
01380	OREGON A	-28200	4816	3651	-11653	621	-13828	-25248
02050	OCCIDENTA	24773	267395	74713	146281	69995	47581	29492
05130	IDAHO EQ	-8286	59497	-4666	25576	-4995	-6641	-7957
05440	TENN EQ	-544	36731	-49	18044	-49	-297	-544
05530	WYOMING E	-1885	1293	-1514	-296	-1551	-1718	-1853
10250	MISS T	-6795	-10603	-8765	-8666	-8568	-7681	-6959
10490	VA T	-1794	0	-837	-897	-928	-1361	-1707
11260	GEN AM	57087	21925	47018	39466	47911	52540	56194
13110	GA PRUD	-87097	-112287	-61993	-99735	-64298	-75740	-84791
13310	N.J. PRUD	-170849	-594191	-237590	-382736	-231326	-201087	-177112
13340	N.C. PRUD	-63496	111118	-43389	23776	-45294	-54395	-61732
14330	NY GHI	29491	95682	33587	62586	33177	31334	29860
16360	NATIONWID	-54118	24822	-27709	-14576	-30306	-42285	-51665
21200	MAINE	-1018	50408	3548	24682	3131	1044	-600
ALL CARRIERS								
SUM		7729443	3306238	6169686	5517982	6317376	7023811	7588625
AVERAGE		203406	87006	162360	145210	166247	184837	199701

EFFECTIVENESS OF HOSPITAL VISITS SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
550	COLORADO	222735	-10635	-945887	106346	-1367725	-572495	63807
880	S. C.	118041	1902715	101967	1010127	96442	107492	116031
801	WNY.	-350185	-314184	-307639	-333821	-292911	-322366	-345275
630	INDIANA	-14304	-17880	-3576	-16688	0	-7152	-13112
865	PBS	1456096	3945551	308666	2697468	-107362	671012	1295053
910	UTAH	-6006	-202797	-5307	-104471	-5168	-5587	-6006
5130	IDAHO EQ	-4247	19690	-3571	7722	-3378	-3764	-4150
IMPL AFTER 1/86								
SUM		1422131	5322460	-855347	3366683	-1680102	-132860	1106349
AVERAGE		203162	760351	-122192	480955	-240015	-18980	158050

EFFECTIVENESS OF HOSPITAL VISITS SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
550	COLORADO	237506	56718	-854902	147112	-1248972	-505733	89212
880	S. C.	-603766	-699203	-525909	-651986	-497780	-550522	-593217
801	WNY.	-278184	-322366	-245457	-301093	-234002	-256911	-274911
630	INDIANA	3576	48872	2384	26224	2384	2384	2384
910	UTAH	-559	236875	-279	118158	-140	-419	-559
930	WASH	30325	2078690	27437	1054146	26715	28159	29603
865	PBS	1442676	4153565	402607	2791410	20130	724693	1295053
1020	ALASKA A	-2108	-13703	-1833	-7883	-1742	-1925	-2108
1380	OREGON A	-1781	58048	712	28134	1781	0	-1425
5130	IDAHO EQ	-1834	485009	8590	241684	12258	5309	-386
IMPL AFTER 1/86								
SUM		825851	6082506	-1186649	3445907	-1919368	-554966	543646
AVERAGE		82585	608251	-118665	344591	-191937	-55497	54365

EFFECTIVENESS OF HOSPITAL VISITS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
520	ARKANSAS	2464	77194	19709	39418	24637	13961	4927
528	LOUISIANA	-5838	-87573	-4379	-46706	-2919	-4379	-5838
542	CALIF	-12447	-298724	-3112	-152474	-3112	-6223	-9335
550	COLORADO	222735	-10635	-945887	106346	-1367725	-572495	63807
590	FLORIDA	1759496	11629016	1567201	6696659	1504705	1629697	1735459
630	INDIANA	-14304	-17880	-3576	-16688	0	-7152	-13112
640	IOWA	-6590	34597	48875	13729	69194	31302	549
650	KANSAS	776	986928	10858	493658	14348	7756	2327
660	KENTUCKY	-33538	-570152	-29812	-301845	-27949	-31675	-33538
700	MASS	943598	1992773	901807	1467086	886410	917203	936999
720	MINN BS	37979	-474026	25260	-218202	20423	29380	36367
740	K. C.	14537	4473	12860	8946	11741	13419	13978
751	MONTANA	125	-27895	-625	-13885	-876	-375	125
780	MASS NH	-79992	258435	24053	89222	61532	-9230	-65728
801	WNY.	-350185	-314184	-307639	-333821	-292911	-322366	-345275
803	GNY	-1243136	-13072147	-1986454	-7157641	-2261994	-1755769	-1345662
820	N. D.	150613	-21035	132383	64789	125932	138272	148089
865	PBS	1456096	3945551	308666	2697468	-107362	671012	1295053
870	R.I.	-2296	-1435	2296	-1722	3730	574	-1722
880	S. C.	118041	1902715	101967	1010127	96442	107492	116031
900	TEXAS	-77706	3976520	-23650	1946029	-3379	-40542	-70949
910	UTAH	-6006	-202797	-5307	-104471	-5168	-5587	-6006
1030	ARIZONA A	-9260	129634	9260	60408	15874	3527	-6614
1120	HAWAII A	10454	90283	10216	50368	9979	10454	10454
1370	OKLA A	-15889	-532295	-39724	-274092	-48463	-32573	-19862
1380	OREGON A	-14245	-224359	-12108	-119302	-11396	-12821	-13889
2050	OCCIDENTA	79110	1577553	200103	828332	246638	162874	93071
5130	IDAHO EQ	-4247	19690	-3571	7722	-3378	-3764	-4150
10240	MINN T	-133189	-437577	-152992	-285223	-160019	-146604	-136064
10250	MISS T	-20041	-94477	-8589	-57259	-3579	-12168	-18609
10490	VA T	-416052	-920194	-435025	-668123	-443157	-429605	-418763
11260	GEN AM	74807	-180487	66495	-53434	64120	70057	73620
13110	GA PRUD	-126596	-208217	-33315	-168240	0	-63298	-113270
13310	N.J. PRUD	-405764	-632992	-308381	-519378	-272674	-340842	-389534
13340	N.C. PRUD	-36807	6326909	72300	3145708	111736	38122	-21033
16360	NATIONWID	-286806	-1129300	-152366	-705066	-104565	-197179	-265893
21200	MAINE	-70463	26735	-23563	-21751	-6570	-38517	-64119
ALL CARRIERS								
SUM		1499434	13520625	-965767	7506691	-1859753	-188060	1161892
AVERAGE		40525	365422	-26102	202884	-50264	-5083	31402

EFFECTIVENESS OF HOSPITAL VISITS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
520	ARKANSAS	2464	77194	24637	39418	32849	17246	5749
528	LOUISIANA	-2919	-21893	26272	-13136	36489	17515	1460
542	CALIF	-62234	-177368	286278	-118245	410746	177368	-12447
550	COLORADO	237506	56718	-854902	147112	-1248972	-505733	89212
590	FLORIDA	1995056	17888205	1797954	9946438	1725844	1860450	1971020
630	INDIANA	3576	48872	2384	26224	2384	2384	2384
640	IOWA	-1647	-2746	4393	-2197	6590	2197	-1098
650	KANSAS	-3102	959782	17063	478146	24043	10470	-388
660	KENTUCKY	-22359	-560836	-19564	-291597	-18632	-20496	-22359
700	MASS	519089	244148	351925	380518	292537	406913	494894
720	MINN BS	37084	27947	27947	32426	24543	30813	35830
740	K. C.	46406	478601	41374	262224	39138	43052	45288
751	MONTANA	-1251	22641	6505	10632	9382	4003	-125
780	MASS NH	-29368	189351	12586	79992	27689	-839	-23494
801	WNY.	-278184	-322366	-245457	-301093	-234002	-256911	-274911
803	GNY	-519041	-4652146	-922740	-2588798	-1070122	-800989	-576712
820	N. D.	150894	-21596	132943	64789	126212	138553	148650
865	PBS	1442676	4153565	402607	2791410	20130	724693	1295053
870	R.I.	-76616	-169588	-161840	-122815	-192831	-134867	-88381
880	S. C.	-603766	-699203	-525909	-651986	-497780	-550522	-593217
900	TEXAS	-212847	-2435914	-172305	-1324381	-158791	-185819	-206090
910	UTAH	-559	236875	-279	118158	-140	-419	-559
930	WASH	30325	2078690	27437	1054146	26715	28159	29603
1020	ALASKA A	-2108	-13703	-1833	-7883	-1742	-1925	-2108
1030	ARIZONA A	10582	332462	29542	171522	36156	23369	12787
1120	HAWAII A	-5940	60347	8791	27322	14018	4277	-3801
1290	NEVADA A	-6452	56676	3795	25175	7591	633	-4934
1370	OKLA A	-16684	-893779	-50846	-455231	-63558	-39723	-21451
1380	OREGON A	-1781	58048	712	28134	1781	0	-1425
2050	OCCIDENTA	144260	2187168	283867	1168041	335056	241985	167528
5130	IDAHO EQ	-1834	485009	8590	241684	12258	5309	-386
10240	MINN T	-54937	-363796	-93584	-209526	-107318	-81447	-60366
10250	MISS T	-40797	-226889	-34355	-133127	-32208	-36503	-39366
10490	VA T	-94865	-1057071	-318477	-575968	-399790	-248005	-126035
11260	GEN AM	67682	-365723	60558	-148427	58183	62933	66495
13110	GA PRUD	-178234	-418101	-73293	-298167	-34981	-106607	-163242
13310	N.J. PRUD	467440	-2174896	162306	-853728	51938	259689	428487
13340	N.C. PRUD	-141971	5593393	-26291	2726368	15775	-63098	-124882
16360	NATIONWID	-669215	-3381926	-475023	-2022583	-403322	-537762	-642327
21200	MAINE	-29227	8156	-11328	-10422	-4984	-17219	-26735
ALL CARRIERS								
SUM		2097103	17284311	-267560	9690572	-1131125	473124	1777599
AVERAGE		52428	432108	-6689	242264	-28278	11828	44440

EFFECTIVENESS OF COMPREHENSIVE OFFICE VISIT SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
550	COLORADO	17657	15319	6706	16488	10828	14211	16980
801	WNY.	-16169	150252	-11174	67041	-13014	-14723	-15906
630	INDIANA	-403	-6449	-2922	-3426	-1965	-1159	-554
14330	NY GHI	122956	-47330	-99405	37784	-14691	54133	109180
930	WASH	10714	-75858	7389	-32634	8620	9605	10467
1020	ALASKA A	2462	-8238	1018	-2886	1569	2015	2375
1380	OREGON A	6845	133929	6845	70349	6845	6769	6769
865	PBS	6324	-87103	-7187	-40533	-2012	2012	5174
5130	IDAHO EQ	13361	-1909	9635	5741	11070	12215	13147
IMPL AFTER 1/86								
SUM		163745	72612	-89095	117924	7250	85079	147632
AVERAGE		18194	8068	-9899	13103	806	9453	16404

EFFECTIVENESS OF COMPREHENSIVE OFFICE VISIT SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
550	COLORADO	16795	54139	10336	35498	12796	14765	16426
801	WNY.	-7098	139604	-4864	66121	-5653	-6441	-6967
630	INDIANA	3073	14762	-2166	8918	-202	1461	2771
14330	NY GHI	95861	-48359	-103521	23722	-27552	34126	83514
910	UTAH	3851	-39638	2294	-17904	2888	3360	3749
930	WASH	13053	218707	9975	115880	11083	12068	12807
865	PBS	-20698	-151209	-18398	-85953	-19260	-19835	-20698
1020	ALASKA A	741	-3242	95	-1248	338	542	702
1380	OREGON A	-3118	8290	-761	2510	-1673	-2434	-3042
5130	IDAHO EQ	13635	26385	9956	20018	11360	12505	13406
IMPL AFTER 1/86								
SUM		116096	219438	-97054	167561	-15874	50117	102668
AVERAGE		11610	21944	-9705	16756	-1587	5012	10267

EFFECTIVENESS OF COMPREHENSIVE OFFICE VISITS SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
520	ARKANSAS	6989	-42067	-4306	-17523	0	3511	6327
528	LOUISIAN	107010	100103	69549	103591	83850	95430	104707
542	CALIF	-2867	6144	67174	1638	40140	18432	1638
550	COLORADO	17657	15319	6706	16488	10828	14211	16980
590	FLORIDA	604060	2503440	380438	1553398	465527	535145	590699
630	INDIANA	-403	-6449	-2922	-3426	-1965	-1159	-554
650	KANSAS	-8128	-20980	-8678	-14554	-8458	-8293	-8156
660	KENTUCKY	4479	-1204	3275	1638	3709	4094	4383
700	MASS	6275	35892	27860	21083	19577	13051	7781
720	MINN BS	-180	-503	-72	-359	-108	-144	-180
801	WNY.	-16169	150252	-11174	67041	-13014	-14723	-15906
803	GNY	-116261	298773	102622	91580	19485	-48063	-103271
865	PBS	6324	-87103	-7187	-40533	-2012	2012	5174
870	R.I.	-2181	-13407	-25749	-7767	-16758	-9470	-3618
880	S. C.	114537	15770	77994	65178	91906	103246	112298
900	TEXAS	96080	-299221	-24457	-101570	21712	58646	88593
930	WASH	10714	-75858	7389	-32634	8620	9605	10467
1020	ALASKA A	2462	-8238	1018	-2886	1569	2015	2375
1290	NEVADA A	7069	-5851	-472	609	2407	4723	6597
1370	OKLA A	58380	-120209	-122153	-30977	-53426	2508	47155
1380	OREGON A	6845	133929	6845	70349	6845	6769	6769
2050	OCCIDENT	-231133	-490183	-113619	-360334	-158417	-194775	-223991
5130	IDAHO EQ	13361	-1909	9635	5741	11070	12215	13147
5440	TENN EQ	-28250	-1297	-14776	-20797	-23638	-25947	-27795
10240	MINN T	19379	-51228	-15924	-15924	-2516	8450	17201
10250	MISS T	48746	-19498	-12671	14609	10733	29739	44956
10490	VA T	12443	-46543	-22417	-17098	-9119	1615	10164
11260	GEN AM	93058	117941	69698	105563	78585	85821	91661
13110	GA PRUD	-17737	-96840	-13875	-57217	-15449	-16450	-17451
13310	N.J. PRU	23164	-186602	5762	-81719	12346	17755	21988
13340	N.C. PRU	-25635	454419	-529	214458	-9910	-17838	-23917
14330	NY GHI	122956	-47330	-99405	37784	-14691	54133	109180
16360	NATIONWI	-113940	-213547	-70759	-163653	-87269	-100695	-111400
ALL CARRIERS								
SUM		877056	2032100	301569	1454825	520786	698864	840935
AVERAGE		25796	59768	8870	42789	15317	20555	24733

EFFECTIVENESS OF COMPREHENSIVE OFFICE VISIT SCREEN FOR ALL CARRIERS

COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
520	ARKANSAS	9738	-16297	-2749	-3279	1987	5896	8977
528	LOUISIANA	99406	84338	64038	91872	77571	88454	97243
542	CALIF	-2048	11059	53248	4506	31949	15155	1638
550	COLORADO	16795	54139	10336	35498	12796	14765	16426
590	FLORIDA	607576	2731984	380438	1669429	466934	537255	594215
630	INDIANA	3073	14762	-2166	8918	-202	1461	2771
640	IOWA	-351	-17449	251	-8875	50	-100	-251
650	KANSAS	11396	-25978	-5574	-7304	906	6124	10353
660	KENTUCKY	5346	-722	3901	2312	4431	4865	5250
700	MASS	6777	37899	32629	22087	22589	14808	8534
720	MINN BS	-467	-108	-108	-323	-251	-395	-467
801	WNY.	-7098	139604	-4864	66121	-5653	-6441	-6967
803	GNY	120808	284483	132499	202646	127953	124705	120808
820	N. D.	8851	-338	6546	4272	7437	8175	8759
865	PBS	-20698	-151209	-18398	-85953	-19260	-19835	-20698
870	R.I.	-25802	-41869	-54265	-33836	-43412	-34634	-27558
880	S. C.	63177	-28015	37449	17581	47216	55220	61557
900	TEXAS	85599	-918127	-31944	-416514	12977	49163	78361
910	UTAH	3851	-39638	2294	-17904	2888	3360	3749
930	WASH	13053	218707	9975	115880	11083	12068	12807
1020	ALASKA A	741	-3242	95	-1248	338	542	702
1030	ARIZONA A	2772	-80965	-12809	-39096	-6882	-2007	1912
1120	HAWAII A	6638	-11117	-42488	-2247	-23772	-8574	3592
1290	NEVADA A	6978	-20340	-2011	-6673	1417	4190	6414
1370	OKLA A	58380	-99390	-121463	-20568	-52987	2759	47218
1380	OREGON A	-3118	8290	-761	2510	-1673	-2434	-3042
2050	OCCIDENTA	-1400431	-416169	-335662	-908300	-741443	-1071262	-1334857
5130	IDAHO EQ	13635	26385	9956	20018	11360	12505	13406
5440	TENN EQ	-16030	21122	-11504	2640	-13201	-14522	-15747
5440	TENN EQ	40453	15276	29703	27912	33852	37153	39793
10240	MINN T	18553	16187	-2892	17351	5258	11906	17239
10250	MISS T	51639	-5236	-8910	23201	14146	32893	47907
10490	VA T	18522	-47303	-23557	-14343	-7504	5509	15863
11260	GEN AM	92867	79474	69508	86202	78395	85631	91471
13110	GA PRUD	-17737	-93407	-13160	-55643	-15019	-16307	-17451
13310	N.J. PRUD	45739	145096	35392	95476	39272	42565	45034
13340	N.C. PRUD	-28409	421120	-4493	196355	-13610	-21142	-26956
14330	NY GHI	95861	-48359	-103521	23722	-27552	34126	83514
16360	NATIONWID	-141518	-241306	-89447	-191412	-109404	-125370	-138252
21200	MAINE	-7135	-13621	3104	-10378	-834	-3938	-6486
ALL CARRIERS								
SUM		-162618	1989720	-11383	912611	-69854	-115711	-153220
AVERAGE		-4065	49743	-285	22815	-1746	-2893	-3830

EFFECTIVENESS OF SNF SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
801	WNY.	-20172	-7316	-17211	-13786	-16831	-18480	-19876
630	INDIANA	1093	2661	-1345	1877	-1653	-280	840
14330	NY GHI	-424	24938	293	12257	391	0	-326
930	WASH	4188	15600	3642	9894	3521	3824	4067
865	PBS	44236	37985	21637	41351	19233	31734	41831
5130	IDAHO EQ	-1026	2291	-857	633	-843	-928	-1012
IMPL AFTER 1/86								
SUM		27895	76160	6159	52225	3818	15870	25525
AVERAGE		4649	12693	1026	8704	636	2645	4254

EFFECTIVENESS OF SNF SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
801	WNY.	-13701	-7147	-11672	-10445	-11418	-12560	-13490
630	INDIANA	-28	-2605	-2017	-1317	-2269	-1149	-252
930	WASH	4431	158185	4006	81278	3946	4188	4310
14330	NY GHI	-1434	-10171	-717	-5803	-587	-1011	-1337
865	PBS	33657	-112512	13944	-38946	11540	22118	31253
5130	IDAHO EQ	211	76204	1265	38221	1406	815	323
IMPL AFTER 1/86								
SUM		23136	101954	4809	62988	2617	12403	20808
AVERAGE		3856	16992	802	10498	436	2067	3468

EFFECTIVENESS OF SNF SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
520	ARKANSAS	9212	2995	7438	6106	7205	8211	9011
528	LOUISIANA	-9930	-37923	-13332	-23926	-13775	-11866	-10317
542	CALIF	-90467	-159648	-84955	-124867	-84385	-87236	-89897
550	COLORADO	1072	-10970	378	-4918	252	694	1009
590	FLORIDA	12274	271972	11585	142123	11585	11930	12274
630	INDIANA	1093	2661	-1345	1877	-1653	-280	840
700	MASS	-3598	-200084	-4428	-101841	-4428	-4013	-3736
720	MINN BS	-5019	-24449	-4224	-14709	-4075	-4572	-4920
740	K. C.	-5769	6980	-4842	592	-4688	-5254	-5692
801	WNY.	-20172	-7316	-17211	-13786	-16831	-18480	-19876
803	GNY	51196	500500	71827	276612	74884	62658	53489
820	N. D.	-1314	1275	-1121	0	-1082	-1159	-1237
865	PBS	44236	37985	21637	41351	19233	31734	41831
870	R.I.	342	-5504	49	-2568	0	171	294
880	S. C.	-6607	-6730	-5499	-6689	-5376	-5992	-6484
900	TEXAS	4996	8788	-903	6922	-1685	1685	4334
930	WASH	4188	15600	3642	9894	3521	3824	4067
1030	ARIZONA A	-1203	-17253	-1124	-9228	-1098	-1150	-1176
1120	HAWAII A	4646	1662	2184	3154	1868	3263	4367
1370	OKLA A	-10460	-9786	-8491	-10114	-8231	-9337	-10235
1380	OREGON A	448	-90	276	181	253	350	429
2050	OCCIDENTA	-959	-27882	-811	-14433	-762	-861	-934
5130	IDAHO EQ	-1026	2291	-857	633	-843	-928	-1012
5440	TENN EQ	-7558	6760	-6340	-399	-6193	-6865	-7432
10240	MINN T	3803	1027	1574	2426	1268	2535	3562
10490	VA T	-635	-6	68	-320	159	-238	-555
11260	GEN AM	504	1612	484	1068	484	504	504
13110	GA PRUD	-106322	65180	-60755	-20690	-54775	-80608	-101179
13310	N.J. PRUD	6128	-72221	2407	-33047	1970	4158	5690
13340	N.C. PRUD	-16676	755523	77316	369355	89720	36522	-6064
14330	NY GHI	-424	24938	293	12257	391	0	-326
16360	NATIONWID	-30251	172623	-1665	71048	2220	-14154	-26920
21200	MAINE	-134	3423	254	1641	313	82	-97
ALL CARRIERS								
SUM		-174386	1303935	-16492	565702	5445	-84671	-156389
AVERAGE		-5284	39513	-500	17142	165	-2566	-4739

EFFECTIVENESS OF SNF SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
520	ARKANSAS	7684	2870	6280	5279	6097	6893	7527
528	LOUISIANA	-5090	-49015	-11562	-27052	-12420	-8768	-5836
542	CALIF	29649	26228	-15965	27938	-22047	3801	24327
550	COLORADO	1072	24651	1387	12862	1387	1261	1072
590	FLORIDA	13994	383926	13880	199018	13880	13994	14109
630	INDIANA	-28	-2605	-2017	-1317	-2269	-1149	-252
640	IOWA	27478	49539	33166	38484	33908	30693	28096
660	KENTUCKY	-1048	2554	-851	786	-851	-917	-982
700	MASS	2352	-195518	-277	-96721	-553	830	2076
720	MINN BS	-4423	-46065	-3826	-25244	-3727	-4075	-4373
740	K. C.	3632	37141	3220	20373	3194	3400	3554
780	MASS NH	449	21046	513	10742	513	481	449
801	WNY.	-13701	-7147	-11672	-10445	-11418	-12560	-13490
803	GNY	25216	290366	37442	158173	39734	32093	25980
820	N. D.	2125	0	1816	1082	1777	1971	2125
865	PBS	33657	-112512	13944	-38946	11540	22118	31253
870	R.I.	-1223	-34907	-1419	-18053	-1468	-1345	-1248
880	S. C.	-30779	-21340	-25978	-26060	-25362	-28030	-30205
900	TEXAS	6500	13543	-1625	10052	-2648	1926	5598
930	WASH	4431	158185	4006	81278	3946	4188	4310
1030	ARIZONA A	-863	-5516	-654	-3189	-627	-732	-837
1120	HAWAII A	4076	-9474	983	-2705	582	2329	3736
1370	OKLA A	-13656	-14165	-11522	-13906	-11246	-12446	-13414
1380	OREGON A	573	3360	373	1967	348	459	550
2050	OCCIDENTA	0	2606	0	1303	25	25	25
5130	IDAHO EQ	211	76204	1265	38221	1406	815	323
5440	TENN EQ	-1428	5899	-1176	2246	-1134	-1281	-1386
10240	MINN T	4524	-1530	983	1508	525	2535	4131
10490	VA T	-37	-66	-101	-51	-110	-73	-44
11260	GEN AM	13787	4011	11872	8909	11630	12718	13565
13110	GA PRUD	-179036	73911	-99624	-52623	-89219	-134188	-170067
13310	N.J. PRUD	-9629	10943	-5690	657	-4815	-7222	-9192
13340	N.C. PRUD	-26875	721757	37625	347304	46169	9647	-19570
14330	NY GHI	-1434	-10171	-717	-5803	-587	-1011	-1337
16360	NATIONWID	-52453	178729	-3053	62999	3608	-24700	-46903
21200	MAINE	-1626	-5168	-1134	-3401	-1066	-1350	-1574
ALL CARRIERS								
SUM		-161918	1572271	-30107	705664	-11299	-87668	-147902
AVERAGE		-4498	43674	-836	19602	-314	-2435	-4108

EFFECTIVENESS OF INJECTION SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
801	WNY.	626	-1632	534	-503	513	564	616
14330	NY GHI	-244	-163	909	-203	1154	455	-107
930	WASH	5518	-287	4613	2615	4421	4970	5408
1380	OREGON A	-403	24564	658	12081	873	242	-282
5130	IDAHO EQ	-632	1161	-543	268	-522	-577	-625
IMPL AFTER 1/86								
SUM		4865	23644	6172	14258	6439	5654	5009
AVERAGE		973	4729	1234	2852	1288	1131	1002

EFFECTIVENESS OF INJECTION SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
14330	NY GHI	-2096	-6152	-1564	-4122	-1453	-1775	-2033
801	WNY.	113	-1344	92	-616	82	92	113
930	WASH	4745	699	4185	2722	4067	4406	4677
1020	ALASKA A	0	0	-102	0	-123	-61	-12
1380	OREGON A	-941	14567	-242	6813	-108	-524	-860
5130	IDAHO EQ	-563	32470	-96	15954	7	-282	-508
IMPL AFTER 1/86								
SUM		1258	40240	2274	20751	2473	1857	1375
AVERAGE		210	6707	379	3458	412	309	229

EFFECTIVENESS OF INJECTION SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
660	KENTUCKY	-4064	499	-3517	-1782	-3398	-3731	-4016
700	MASS	-624	-2980	-664	-1802	-669	-649	-629
740	K. C.	2886	74343	2577	38599	2516	2701	2840
801	WNY.	626	-1632	534	-503	513	564	616
803	GNY	-3350	5067	18260	838	22824	9758	-754
820	N. D.	-270	-135	-236	-186	-203	-253	-253
865	PBS	-1867	-23629	-827	-12748	-587	-1227	-1734
870	R.I.	-707	-1706	-1236	-1206	-1348	-1028	-772
880	S. C.	-16149	-24055	-13794	-20092	-13308	-14728	-15868
900	TEXAS	-5686	-73221	-4854	-39523	-4715	-5270	-5686
930	WASH	5518	-287	4613	2615	4421	4970	5408
1030	ARIZONA A	-6870	-45439	-3995	-26173	-3398	-5115	-6497
1120	HAWAII A	-544	-5451	-387	-2995	-351	-448	-526
1370	OKLA A	-10795	-11131	-5790	-10982	-4744	-7770	-10197
1380	OREGON A	-403	24564	658	12081	873	242	-282
2050	OCCIDENTA	-29042	-132244	-19966	-80903	-17892	-23597	-28264
5130	IDAHO EQ	-632	1161	-543	268	-522	-577	-625
5530	WYOMING E	-451	-1076	-414	-764	-406	-427	-446
10240	MINN T	-251	10163	-86	4956	-50	-151	-234
10250	MISS T	-371	2783	14	1204	95	-136	-326
10490	VA T	-10234	-57722	-8524	-33978	-8147	-9190	-10060
11260	GEN AM	-3088	2336	-2604	-376	-2524	-2819	-3034
13110	GA PRUD	-2333	-38557	-2333	-20389	-2333	-2333	-2333
13310	N.J. PRUD	-2158	-14444	-1839	-8289	-1766	-1937	-2109
13340	N.C. PRUD	-398	119177	437	59370	596	119	-318
14330	NY GHI	-244	-163	909	-203	1154	455	-107
ALL CARRIERS								
SUM		-91501	-193777	-43607	-142963	-33367	-62577	-86206
AVERAGE		-3519	-7453	-1677	-5499	-1283	-2407	-3316

EFFECTIVENESS OF INJECTION SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
650	KANSAS	7127	48901	12656	28027	13823	10450	7812
660	KENTUCKY	-1663	737	-1426	-475	-1378	-1521	-1640
740	K. C.	3040	89576	2639	46300	2547	2793	2979
801	WNY.	113	-1344	92	-616	82	92	113
803	GNY	-2513	5947	19935	1717	24667	11098	209
820	N. D.	-1807	-152	-1571	-980	-1503	-1655	-1773
865	PBS	-4267	-36831	-2454	-20536	-2080	-3174	-4027
870	R.I.	-247	-981	-924	-614	-1068	-657	-329
880	S. C.	-5850	22335	-4261	8261	-3944	-4897	-5663
900	TEXAS	-13174	-107197	-10262	-60186	-9707	-11371	-12897
930	WASH	4745	699	4185	2722	4067	4406	4677
1020	ALASKA A	0	0	-102	0	-123	-61	-12
1030	ARIZONA A	-6011	-65862	-4779	-35918	-4555	-5264	-5825
1120	HAWAII A	-30	163	0	73	12	-6	-24
1290	NEVADA A	-1521	-21837	-1321	-11672	-1267	-1401	-1481
1370	OKLA A	3586	9077	1531	6350	1083	2353	3362
1380	OREGON A	-941	14567	-242	6813	-108	-524	-860
2050	OCCIDENTA	-8038	-46156	-5705	-27227	-5445	-6742	-7779
5130	IDAHO EQ	-563	32470	-96	15954	7	-282	-508
5440	TENN EQ	-6452	13890	-5511	3719	-5287	-5870	-6362
5530	WYOMING E	-335	-855	-307	-595	-301	-318	-331
10240	MINN T	352	16703	509	8527	544	446	370
10250	MISS T	-5829	2847	-4331	-1494	-4014	-4920	-5648
10490	VA T	-899	2551	-290	841	-145	-522	-841
11260	GEN AM	5987	6658	5289	6309	5128	5558	5907
13110	GA PRUD	-3111	-58946	-3222	-31001	-3222	-3222	-3167
13310	N.J. PRUD	-1177	-24376	-1128	-12776	-1104	-1128	-1153
13340	N.C. PRUD	80	145621	1233	72850	1432	795	239
14330	NY GHI	-2096	-6152	-1564	-4122	-1453	-1775	-2033
ALL CARRIERS								
SUM		-41496	42055	-1426	253	6686	-17316	-36688
AVERAGE		-1431	1450	-49	9	231	-597	-1265

EFFECTIVENESS OF UROLOGICAL SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
550	COLORADO	-5435	-4451	-3877	-4949	-3413	-4429	-5236
801	WNY.	-2356	-216	-2041	-1286	-1950	-2152	-2315
910	UTAH	-1281	39	-1114	-621	-1066	-1173	-1259
930	WASH	1017	1104	894	1061	854	937	1003
1380	OREGON A	-3291	-5634	-2798	-4464	-2654	-2974	-3227
803	GNY	-2189	-5831	-1733	-4007	-1598	-1897	-2133
14330	NY GHI	-1079	-3791	-1374	-2435	-1461	-1271	-1118
13110	GA PRUD	5021	9069	3893	7040	3572	4296	4876
13310	N.J. PRUD	5674	-3725	3309	977	2618	4146	5366
13340	N.C. PRUD	1373	23356	1460	12361	1485	1422	1391
865	PBS	-21104	-76726	-17555	-48931	-16528	-18800	-20637
720	MINN BS	-3954	1688	-3459	-1133	-3317	-3634	-3891
IMPL AFTER 1/86								
SUM		-27604	-65118	-24397	-46387	-23459	-25528	-27180
AVERAGE		-2300	-5427	-2033	-3866	-1955	-2127	-2265

EFFECTIVENESS OF UROLOGICAL SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
520	ARKANSAS	7430	4626	5931	6025	5496	6466	7242
528	LOUISIANA	-1355	-11562	-1247	-6458	-1216	-1285	-1347
542	CALIF	-605	-510	1306	-560	1861	633	-353
550	COLORADO	1591	-221	740	685	497	1038	1480
590	FLORIDA	9281	-12468	-6675	-1593	-11283	-1012	7235
630	INDIANA	-295	9608	40	4657	135	-79	-254
640	IOWA	36769	12202	32062	24481	30702	33731	36162
660	KENTUCKY	-3149	724	-2757	-1212	-2621	-2894	-3090
720	MINN BS	2983	5371	2924	4175	2904	2943	2973
740	K. C.	11552	27777	10209	19664	9822	10684	11381
801	WNY.	-2264	-171	-1961	-1218	-1874	-2068	-2225
803	GNY	-433	940	-287	253	-242	-343	-416
820	N. D.	2696	-188	2344	1253	2244	2469	2651
865	PBS	-29632	-64432	-24030	-47032	-22442	-26022	-28916
870	R.I.	-221	-2480	-2418	-1350	-3056	-1637	-504
900	TEXAS	-2563	-216397	-5357	-109466	-6163	-4377	-2938
910	UTAH	250	39	219	145	210	230	246
930	WASH	-113	8216	4	4050	36	-36	-94
1020	ALASKA A	-19	-27	-22	-23	-23	-21	-19
1030	ARIZONA A	-6737	-2337	-1167	-4537	449	-3143	-6016
1120	HAWAII A	-81	-280	-33	-180	-19	-50	-75
1290	NEVADA A	-593	-281	-261	-437	-165	-379	-550
1370	OKLA A	1077	-9565	-649	-4249	-1151	-32	852
1380	OREGON A	-2781	-669	-1003	-1726	-484	-1634	-2550
2050	OCCIDENTA	-147	950	372	401	529	196	-78
5130	IDAHO EQ	236	1108	246	672	249	243	238
5440	TENN EQ	2972	12597	2588	7792	2474	2730	2929
10250	MISS T	168	4577	1153	2371	1436	801	293
10490	VA T	9890	2255	6661	6078	5718	7815	9477
11260	GEN AM	-12352	-316	-10772	-6332	-10312	-11332	-12151
13110	GA PRUD	4586	-9845	3365	-2630	3023	3799	4431
13310	N.J. PRUD	13513	-4168	9286	4675	8055	10781	12968
13340	N.C. PRUD	1336	19262	1329	10299	1329	1329	1336
14330	NY GHI	-171	-941	-527	-556	-631	-401	-218
ALL CARRIERS								
SUM		42818	-226604	21612	-91884	15488	29143	40098
AVERAGE		1784	-9442	900	-3829	645	1214	1671

EFFECTIVENESS OF UROLOGICAL SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
520	ARKANSAS	7800	-1599	6084	3098	5584	6695	7582
528	LOUISIANA	-208	-8952	-400	-4580	-454	-331	-231
542	CALIF	-13166	-8929	-8138	-11047	-6681	-9921	-12516
550	COLORADO	-5435	-4451	-3877	-4949	-3413	-4429	-5236
590	FLORIDA	8893	-20284	-7343	-5706	-12037	-1593	6804
640	IOWA	46994	3106	33789	25050	29950	38467	45296
660	KENTUCKY	-1232	528	-1076	-352	-1017	-1134	-1193
690	MD	0	0	0	0	0	0	0
700	MASS	1274	2242	2108	1765	2365	1814	1372
720	MINN BS	-3954	1688	-3459	-1133	-3317	-3634	-3891
740	K. C.	7498	-800	6491	3346	6202	6847	7369
801	WNY.	-2356	-216	-2041	-1286	-1950	-2152	-2315
803	GNY	-2189	-5831	-1733	-4007	-1598	-1897	-2133
820	N. D.	4829	-188	4209	2321	4030	4429	4750
865	PBS	-21104	-76726	-17555	-48931	-16528	-18800	-20637
870	R.I.	-377	-1335	-2107	-856	-2608	-1494	-601
900	TEXAS	-16387	-192782	-17568	-104570	-17884	-17136	-16560
910	UTAH	-1281	39	-1114	-621	-1066	-1173	-1259
930	WASH	1017	1104	894	1061	854	937	1003
1030	ARIZONA A	-2497	-873	3028	-1686	4632	1070	-1783
1370	OKLA A	-2002	-4152	-2071	-3079	-2094	-2044	-2016
1380	OREGON A	-3291	-5634	-2798	-4464	-2654	-2974	-3227
2050	OCCIDENTA	117	666	206	392	235	176	137
5440	TENN EQ	2204	21341	1976	11787	1891	2062	2175
10250	MISS T	1904	5858	2521	3879	2698	2300	1982
10490	VA T	7275	1334	4935	4310	4257	5771	6978
11260	GEN AM	-36861	-398	-32143	-18627	-30773	-33814	-36252
13110	GA PRUD	5021	9069	3893	7040	3572	4296	4876
13310	N.J. PRUD	5674	-3725	3309	977	2618	4146	5366
13340	N.C. PRUD	1373	23356	1460	12361	1485	1422	1391
14330	NY GHI	-1079	-3791	-1374	-2435	-1461	-1271	-1118
ALL CARRIERS								
SUM		-11545	-270334	-29897	-140944	-35164	-23365	-13885
AVERAGE		-385	-9011	-997	-4698	-1172	-779	-463

EFFECTIVENESS OF UROLOGICAL SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
550	COLORADO	1591	-221	740	685	497	1038	1480
803	GNY	-433	940	-287	253	-242	-343	-416
13110	GA PRUD	4586	-9845	3365	-2630	3023	3799	4431
13310	N.J. PRUD	13513	-4168	9286	4675	8055	10781	12968
13340	N.C. PRUD	1336	19262	1329	10299	1329	1329	1336
14330	NY GHI	-171	-941	-527	-556	-631	-401	-218
630	INDIANA	-295	9608	40	4657	135	-79	-254
801	WNY.	-2264	-171	-1961	-1218	-1874	-2068	-2225
910	UTAH	250	39	219	145	210	230	246
930	WASH	-113	8216	4	4050	36	-36	-94
865	PBS	-29632	-64432	-24030	-47032	-22442	-26022	-28916
1020	ALASKA A	-19	-27	-22	-23	-23	-21	-19
1380	OREGON A	-2781	-669	-1003	-1726	-484	-1634	-2550
5130	IDAHO EQ	236	1108	246	672	249	243	238
720	MINN BS	2983	5371	2924	4175	2904	2943	2973
IMPL AFTER 1/86								
SUM		-11214	-35928	-9678	-23574	-9258	-10240	-11022
AVERAGE		-748	-2395	-645	-1572	-617	-683	-735

EFFECTIVENESS OF POST CATARACT SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
550	COLORADO	-1651	-1406	-1066	-1529	-887	-1270	-1577
801	WNY.	141661	-4792	122088	68424	116063	128882	139114
630	INDIANA	824	-49371	-13304	-24274	-17642	-8409	-1015
14330	NY GHI	-4371	-3953	-3469	-4162	-3192	-3780	-4253
930	WASH	-22	-11860	-43	-5944	-57	-36	-22
13110	GA PRUD	-542	-5119	-344	-2831	-292	-412	-511
13310	N.J. PRUD	-642	-21272	-1242	-10957	-1431	-1031	-716
13340	N.C. PRUD	-6589	-11263	-5532	-8929	-5203	-5893	-6454
IMPL AFTER 1/86								
SUM		128669	-109036	97088	9798	87358	108051	124567
AVERAGE		16084	-13630	12136	1225	10920	13506	15571

EFFECTIVENESS OF POST CATARACT SCREEN
FOR CARRIERS WHO IMPLEMENTED SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
550	COLORADO	-3466	-6957	-2999	-5212	-2859	-3161	-3406
801	WNY.	144270	-7340	124333	68445	118186	131228	141661
630	INDIANA	1096	-40942	-13039	-19930	-17383	-8143	-742
13110	GA PRUD	-318	-9717	-245	-5015	-224	-271	-308
13310	N.J. PRU	1347	1610	884	1484	726	1031	1284
13340	N.C. PRU	-4403	922	-3224	-1741	-2856	-3623	-4242
14330	NY GHI	-797	-2744	-949	-1770	-997	-896	-816
930	WASH	165	4933	158	2553	151	158	165
5130	IDAHO EQ	1606	9770	1966	5688	2076	1841	1654
IMPL AFTER 1/86								
SUM		139500	-50463	106884	44504	96820	118163	135249
AVERAGE		15500	-5607	11876	4945	10758	13129	15028

EFFECTIVENESS OF POST CATARACT SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
520	ARKANSAS	7872	481	3832	4178	2590	5231	7345
542	CALIF	47538	954926	57753	501232	60893	54215	48886
550	COLORADO	-1651	-1406	-1066	-1529	-887	-1270	-1577
590	FLORIDA	-811	7626	-433	3461	-324	-595	-757
630	INDIANA	824	-49371	-13304	-24274	-17642	-8409	-1015
640	IOWA	-18509	-883	-7674	-9697	-4347	-11429	-17092
650	KANSAS	-788	-4214	-2990	-2501	-3666	-2227	-1076
660	KENTUCKY	713	104	625	409	598	655	701
700	MASS	-7906	2866	-2790	-2526	-1232	-4562	-7227
740	K. C.	2180	-107	1886	1037	1795	1987	2142
801	WNY.	141661	-4792	122088	68424	116063	128882	139114
803	GNY	15756	20811	13184	18298	12357	14042	15431
865	PBS	-18144	-11597	13708	-14884	23488	2672	-13975
900	TEXAS	-3498	-15259	-3263	-9374	-3191	-3336	-3462
930	WASH	-22	-11860	-43	-5944	-57	-36	-22
1020	ALASKA A	-127	-725	-130	-426	-131	-129	-127
1030	ARIZONA A	-4374	-13566	-4219	-8967	-4163	-4275	-4356
1290	NEVADA A	-434	759	-259	161	-205	-319	-411
1380	OREGON A	2894	6491	2824	4689	2800	2850	2884
2050	OCCIDENTA	-18729	467	-10732	-9140	-8274	-13502	-17691
5440	TENN EQ	-9	451	-5	222	-5	-7	-9
10250	MISS T	-1328	-2578	-207	-1951	140	-594	-1180
10490	VA T	-6399	-4972	-3953	-5683	-3202	-4800	-6082
11260	GEN AM	1347	43254	1463	22300	1500	1426	1361
13110	GA PRUD	-542	-5119	-344	-2831	-292	-412	-511
13310	N.J. PRUD	-642	-21272	-1242	-10957	-1431	-1031	-716
13340	N.C. PRUD	-6589	-11263	-5532	-8929	-5203	-5893	-6454
14330	NY GHI	-4371	-3953	-3469	-4162	-3192	-3780	-4253
ALL CARRIERS								
SUM		125911	875297	155708	500636	164780	145355	129873
AVERAGE		4497	31261	5561	17880	5885	5191	4638

EFFECTIVENESS OF POST CATARACT SCREEN FOR ALL CARRIERS
COMPARISON YEARS: 1/86 vs 4/87

CARRIER CODE	CARRIER NAME	B18712	B28712	B38712	B48712	B58712	B68712	B78712
520	ARKANSAS	7238	-2538	2906	2352	1576	4407	6674
528	LOUISIANA	-495	739	39	121	203	-147	-426
528	LOUISIANA	523	1217	623	869	653	588	536
542	CALIF	51489	958647	55073	505076	56160	53832	51964
550	COLORADO	-3466	-6957	-2999	-5212	-2859	-3161	-3406
590	FLORIDA	20767	106812	19524	63817	19091	19902	20605
630	INDIANA	1096	-40942	-13039	-19930	-17383	-8143	-742
640	IOWA	-23635	-1097	-10815	-12367	-6875	-15255	-21957
650	KANSAS	-2543	-2774	-4217	-2658	-4730	-3637	-2762
660	KENTUCKY	-619	122	-540	-247	-515	-570	-610
740	K. C.	1684	-70	1455	807	1385	1534	1654
801	WNY.	144270	-7340	124333	68445	118186	131228	141661
803	GNY	24684	22792	18860	23738	17027	20841	23915
820	N. D.	16692	0	14621	8346	13982	15338	16422
865	PBS	-6119	-6467	13093	-6306	19026	6440	-3607
900	TEXAS	362	21162	560	10757	624	497	389
930	WASH	165	4933	158	2553	151	158	165
1020	ALASKA A	-432	-465	-386	-449	-371	-402	-426
1030	ARIZONA A	-3203	-8238	-2761	-5714	-2623	-2916	-3147
1120	HAWAII A	0	0	-3	0	-4	-2	0
1290	NEVADA A	168	2013	334	1090	385	276	189
1370	OKLA A	-1748	-6072	-925	-3910	-671	-1210	-1642
1380	OREGON A	3163	7371	3418	5267	3496	3331	3197
2050	OCCIDENTA	-7997	589	-4518	-3704	-3445	-5712	-7530
5130	IDAHO EQ	1606	9770	1966	5688	2076	1841	1654
5440	TENN EQ	476	428	417	453	399	438	469
10240	MINN T	-141	-420	253	-280	372	116	-89
10490	VA T	-3600	-6390	-2713	-4995	-2436	-3016	-3482
11260	GEN AM	655	31195	692	15923	711	683	660
13110	GA PRUD	-318	-9717	-245	-5015	-224	-271	-308
13310	N.J. PRUD	1347	1610	884	1484	726	1031	1284
13340	N.C. PRUD	-4403	922	-3224	-1741	-2856	-3623	-4242
14330	NY GHI	-797	-2744	-949	-1770	-997	-896	-816
ALL CARRIERS								
SUM		216868	1068094	211878	642489	210238	213520	216245
AVERAGE		9429	46439	9212	27934	9141	9283	9402

EFFECTIVENESS OF ROUTINE FOOT CARE SCREEN
FOR CARRIERS WHO IMPLEMENTED THE SCREEN IN 1/86 OR AFTER
COMPARISON YEARS: 1/86 vs 1/87

CARRIER CODE	CARRIER NAME	B18703	B28703	B38703	B48703	B58703	B68703	B78703
00550	COLORADO	940	-991	819	-24	692	817	916
00630	INDIANA	-2403	-1826	-1993	-2105	-1565	-1993	-2310
00910	UTAH	1519	-2262	1360	-370	1194	1356	1485
00803	GNY	222995	0	127229	111498	27553	125274	203451
IMPL AFTER 1/86								
SUM		223051	-5078	127414	108999	27874	125454	203542
AVERAGE		55763	-1269	31853	27250	6968	31363	50885

APPENDIX D: COST ANALYSIS

D.1. Measuring the Cost of Mandated Prepayment Screens

To calculate the net benefits of prepayment medical review (MR), it is necessary to subtract the costs of screening from the benefits. Data on the costs of screening were obtained from the Medicare carrier survey. Each carrier was asked to report on the cost of mandated pre-payment review activities in each of the three most recent fiscal years. Further, the carriers were asked if they kept more detailed records of the cost of mandated pre-payment review, e.g., by 3-month period or by type of service reviewed. We intended to use these responses to attach a cost estimate to each of the 13 nationally mandated screens.

Unfortunately, only 2 carriers (out of 45 responding to the survey) reported that they kept more more detailed records and, in fact, the carriers experienced two problems in providing any cost estimates for mandated MR. First, many could not separate the cost of mandated MR from the total cost of MR (i.e., mandated plus optional screens). Second, some carriers reported that cost data of any type was not available. When cost data were reported, the periods covered were typically the 1988, 1987 and 1986 fiscal years, from October 1 through September 30 of each year (1988 data sometimes covered only the first 9 months of that fiscal year).

Confronted with this problem, we decided to use the available data to estimate a statistical cost function that could be applied to each carrier. The form of this cost function is:

$$TC = b_1 + b_2 * (\text{N OPT SCREENS}) + b_3 * (\text{\$ MANDATED SCREENS}) + b_4 * (\text{\$ OPT SCREENS})$$

where TC is the total cost of prepayment medical review reported by the carrier, N OPT SCREENS is the number of optional prepayment screens, $ MANDATED SCREENS is the dollar volume of claims suspended by the mandated screens, and $ OPT SCREENS is the dollar volume of claims suspended by the top 10 optional screens.

Each carrier with complete data is represented by two observations: one for FY 87 and another for FY 86. Total cost for each year is taken from the carrier survey, as is the dollar volume of claims suspended by the top 10 optional screens and the number of optional screens (the last variable was reported only for the current fiscal year and thus has only one value for each carrier). The dollar volume of claims suspended by mandated screens is taken from quarterly reports submitted by the carriers to HCFA.

The rationale for the cost function is that mandated and optional screens both involve fixed and variable costs. Fixed costs are related to the number of screens operating at a point in time but not to the volume of claims suspended by these screens. Variable costs, on the other hand, are determined by the volume of claims screened. Since all carriers operated 13 mandated screens during FY 1987 and at least for the last three quarters of FY 86, the fixed costs of these screens should be similar for all carriers and are therefore captured by the constant term in the total cost equation. Fixed costs of optional screens will be estimated by the product of the coefficient, b_2, times the number of optional screens. Marginal costs will be estimated by b_3*($ MANDATED SCREENS) for the mandated screens and by b_4*($ OPT SCREENS) for optional screens.

Having estimated the total cost equation, we can calculate predicted fixed plus variable costs of mandated screens for each carrier as: $b_1 + b_3$ ($ MANDATED SCREENS). There will be no missing values for either FY 86 or FY 87, since $ MANDATED SCREENS is available for all carriers in both fiscal years. Finally, since our effectiveness calculations are based on quarterly data, we should divide predicted costs by 4 to estimate quarterly costs of mandated screening programs. This number should be subtracted from social benefits to obtain an estimate of the net benefits of mandated screens. That is,

$$\text{cost effectiveness} = [P_0(B) - P_1(B)]*(\text{total post-screen period claims})$$

$$- (\text{costs of mandated screens in post-screen period}).$$

D.2. Cost Analysis Findings.

We estimated the total cost equation, using data from the quarterly reports, BMAD, and the carrier survey. In general, we found that the total cost of prepayment screening programs is strongly related to the number of dollars suspended by the mandated screens, with a marginal cost of about $1 per $100 of claims screened. This result is robust to different specifications of the equation, and to different ways of dealing with missing values. However, the marginal cost of claims suspended by optional screens is not significantly different from zero, and the coefficient of the number of optional screens is negative. This implausible result--that the cost of a screening program falls as the carrier adds more optional screens--may be due to the poor quality of the data. Table D.1 shows the results of the cost equation.

Table D.1

A Cost Equation for Pre-payment Screening Programs

(Dependent variable = total cost of prepayment screens, $1,000s)

Equation:	(1)	(2)	(3)	(4)
Constant (T-statistic)	244.492 (4.207)**	425.872 (4.080)**	359.166 (4.226)**	243.561 (4.138)**
NO. OF OPTIONAL SCREENS (T-statistic)	———	-6.447 (-2.140)*	-5.299 (-1.844)	———
$1,000 MANDATED SCREENS (T-statistic)	0.00957 (7.292)**	0.00920 (5.300)**	0.00820 (4.319)**	0.00928 (5.000)**
$1,000 OPTIONAL SCREENS (T-statistic)	———	-0.000502 (-0.118)	0.00228 (0.519)	0.00100 (0.225)
Adjusted R-square	0.521	0.546	0.535	0.511
F-statistic	53.169**	20.224**	19.422**	26.073**

* = significant at alpha = .05 in two-tailed test
**= significant at alpha = .01 in two-tailed test

The first column of Table D.1 shows a regression with only one independent variable (other than the constant term). The coefficient of $1,000 MANDATED SCREENS indicates that an additional $1,000 of mandated claims screened raises the total cost of the screening program by $9.57; thus, the marginal cost of mandated screening is approximately $1 per $100 of claims screened. This regression is based on 49 observations.

The second column adds two variables to the regression: the number of optional screens and the value of claims suspended by the top 10 optional screens (in $1,000 units). Missing values for these new variables were imputed from the means of cases where the data were present. Only 23 carriers reported the number of optional screens. Consequently, we suggest that the implausible negative coefficient for this variable may be due to poor data. The coefficient of $1,000 OPTIONAL SCREENS is small in absolute value and is not statistically significant.

The third column uses a different method of imputing missing values. If the carrier did not report the number of optional screens, we assumed that it had 10 such screens. Since the average reported value was 27, this assumption implies that nonresponding carriers operate fewer optional screens than responding carriers, on average. The dollar volume of optional screens in column (3) is predicted for nonrespondents from a regression equation: $1,000 OPTIONAL SCREENS = 168.743*NO. OF OPTIONAL SCREENS. This equation was estimated with data from reporting carriers. The value of "10" was used for the independent variable to predict the dollar volume of optional screens for nonresponding carriers.

The fourth column uses the same method for imputing missing values as column (3), but deletes the number of optional screens from the list of independent variables. This change does not affect our estimate of the marginal cost of screening mandated claims. Similar results (not reported in Table 4.3) were found if we assumed that nonresponding carriers operated 27 optional screens and that $168,473 of claims were suspended by each optional screen. Finally, we tested and rejected the hypothesis that the marginal cost of screening mandated claims was increasing. If anything, marginal cost appears to decline but these results were not significant and are not reported here.

Caution must be used in interpreting Table D.1, given the poor quality of the data. With this qualification in mind, we suggest that the fixed cost of a screening program that includes both mandated and optional screens is about $244,000 per year, using the regression from column (1). The marginal cost of mandated screening is approximately $1 per hundred dollars of claims screened. Thus, a carrier that screens the mean value of mandated claims ($23,833,000 per year) can expect to have total screening costs of 244 + .01*23,833 = 482 thousand dollars. It is interesting to note that the variable costs of screening are $238,000 at the mean. This is about equal to the fixed costs of screening.

Our results indicate that there are economies of scale in screening Medicare claims. Carriers that operate larger screening programs can expect lower average cost per dollar of claims screened. One implication of this finding is that HCFA may wish to consider expanding its regionalization of certain screening programs, to the extent that is possible, in one or two carriers. For example, one carrier might be given the job of nationally screening all claims for a specialized type of service. Another suggestion is to let a large regional carrier run the screening programs for its region of the country.

1990 PHYSICIAN PAYMENT RESEARCH CURRENT WORK

Summary: ORD is currently funding over 30 studies costing over $7.7 million. They accounted for 15% of our 1989 R&D budget. (25% discounting special rural hospital and catastrophic coverage appropriations.) In addition, we are developing several PPO demonstrations.

Medicare Fee Schedule:

Harvard: Resource-Based RVS Study: Phase II
Brandeis-Urban: Urban-Rural Physician Differences in Physician Practices
Urban Institute: Refine GPCI and Understand Urban-Rural Impacts
NORC: 1988 Physicians Practice Cost Survey
Project HOPE: Specialty Certification Salary Differentials--HMO Salaried Physicians
Rand: Specialty Certification Salary Differentials
Minnesota: Economies in Furnishing Physician Services
Brandeis-CHER: Global Fees for Surgery

Medicare Volume Performance Standards:

Urban Institute: Foundations of Volume Performance Standards
Urban Institute: Hospital Medical Staff Volume Performance Standards

Part of *

Understanding Volume-Intensity:

CHER: 10-State Studies of Geographic and Temporal Variations in Medicare Physician Expenditures
HERI: Growth in Physician Expenditure and Utilization for Selected Technologies.
RAND: Assistants at Surgery
RAND: Multiple Hospital Visits
RAND: Physician Practice Patterns
RAND: Concurrent Care During Surgical Admissions
ARC-Laguna: Growth in Physician Expenditures and Utilization
Brandeis-CHER: Concurrent Care During Surgical Admissions
Brandeis-CHER: Geographic Variation in Physician Onpatient Hospital Consultation Rates
Brandeis-CHER: Diagnostic Test Interpretation and Medical Visit Billing
Brandeis-CHER: Physician Income Changes Over Time
Project HOPE: Billing Patterns for Critical Care Physician Services and Options for Bundling

Improving Pricing:

RAND: Medicare Physician Experience Differential (old/new docs)
RAND: Global Fees
RAND: Specialty Differentials Across Localities
RAND: Medical Visit Coding
Brandeis-CHER: Comparison of Medicare Fees to Those of Private Third Party Payers
Brandeis-CHER: Variation in Anesthesia Payments
Minnesota-IDI: Return to Capital--Technical Component of Diagnostic Tests: Provider Volume Patterns
Project HOPE: Pricing and Coverage Decisions of New and Existing Technologies
H&KR: Analysis of Customary Charge Patterns

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